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THE EFFECTIVENESS OF GROUP METHODS IN ALTERING
ATTITUDES OF CONVICTED TRAFFIC OFFENDERS

BY



WILLIAM STEPHEN SHARPE

A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Effectiveness of Group Methods in Altering Attitudes of Convicted Traffic Offenders" submitted by William Stephen Sharpe in partial fulfillment of the requirements for the degree of Master of Education.



ABSTRACT

The experiment was designed to measure the effectiveness of group processes in modifying attitudes of traffic violators. A second objective was to evaluate the work being done with traffic violators by the Alberta Safety Council Traffic Court Clinic. Three methods of group work were employed: guidance, counselling, teaching. A control group was established for each treatment group to eliminate certain time factors which may otherwise have biased the data. Two main criteria were used to compare effectiveness between groups: The Siebrecht Attitude Scale and Driver Demerit Ratings.

Expectations were that all drivers would have an improved score on each criterion on post experiment examination and that the counselling group subjects would have most improvement, the teaching group subjects least improvement and the guidance group subjects moderate improvement. Significant results were obtained on the Siebrecht Scale but results on the demerit criterion were inconclusive.

Variables such as driving experience, education and sex were discussed. It was recommended that the clinic continue its operation using informal group methods and that further research be conducted to explore the effect on group methods of driver attitude change by the variables: sex, marriage, driving experience.



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INTRODUCTION

This thesis is presented as a written report of research conducted into the most effective methods of altering attitudes of drivers. While writing the presentation it became evident that a detailed description of the Alberta Safety Council's Traffic Court Clinic and the function of the Alberta Safety Council itself would be necessary for readers to become fully conversant with the problems which stimulated undertaking this research. Thus the first chapter begins with a background of Safety Council and Traffic Court Clinic history.

Certain problems presented themselves to the Safety Council. Questions were raised about the clinic's effectiveness. This study arose from attempts to answer those questions and to solve operational problems. The report gives details of those problems and restates them in terms of a problem to be studied scientifically. Chapter I concludes with a definition of terms and a statement of hypotheses for investigation by controlled experimentation.

The second chapter delves into literature related to group methods in altering attitudes as well as group methods in changing driver behaviour. Introducing the chapter is a critical look at research previously conducted by the Safety Council. Concluding Chapter II are comments from leaders in traffic safety research--comments about the derth of research in this field of study.

Explained in Chapter III is the experimental design. This study has one or two unique features which were forced upon it by the condition of time. It was deemed advisable to study the groups in as realistic a situation as possible. In reality groups of drivers begin their sessions

in one week intervals. To account for the time factor, a separate control group had to be established for each treatment group. In many ways, then, the study is a three-in-one experiment since three groups, each with a control, are studied simultaneously.

Chapter IV is a summary and interpretation of results obtained from the experiment. In certain aspects the experiment was not a total success although there are significant differences reported. Variations from the design are reported and considered carefully in formulating the conclusions which appear in the final chapter.

CHAPTER I

NEED FOR THIS STUDY

I. ALBERTA SAFETY COUNCIL TRAFFIC COURT CLINIC

History and Description

The Alberta Safety Council is a non-profit organization sponsored primarily by the Government of Alberta and governed by a board of directors who are volunteers interested in public safety. The main purpose of the Council is public safety education. Some programs sponsored by the Council are; babysitter courses, farm safety programs, water safety, cyclist training, traffic safety.

November 1961 saw the opening of the Alberta Safety Council Traffic Court Clinic. The object of the clinic is to teach driver violators how to drive better. The basic assumption is that the attitudes that violators hold are the cause of faulty driving practices and, therefore, the attitudes have to change before a change in driving behavior can occur. Originally the clinic was set up with the idea of lecturing about safe driving practices and the factors which lead to unsafe practices. The course outline planned for one two-hour session each week for four weeks, a total of eight hours. The four sessions covered the following general topics; the general problem of traffic, traffic problems and the driver, law enforcement, the laws of nature as applied to driving.

During the first seven years of the clinic's operation, over two thousand violators took the course. During that time an evolution has taken place in several aspects of the course. Rather than teachers conducting the sessions, school counsellors are now the larger part of the staff. Rather than formal teaching, the counsellors use group methods of discussion and debate.

Each of the counsellors has a Bachelor of Education degree and a diploma or a master's degree in counselling. Three of the regular clinic staff were chosen to participate in the experiment.

Since its inception the clinic has continued to have a member of the city police force visit the group during the third session of each course. Films are shown when the counsellor feels that the time is most suitable for an appropriate film. Some printed matter is available for distribution if the counsellor so desires. The Safety Council has an abundance of leaflets and self-evaluation quizzes which deal with driving facts, conditions, attitudes and procedures.

When the program began, the participants were sent to the clinic by magistrates who would remand sentence pending a report from the clinic. Recently, the Motor Vehicles Act was amended so that the Driver Board of Review, as well as magistrates, may refer chronic violators. Some violators come recommended from the legal department of the Alberta Motor Association, or by the violator's lawyer. In all cases a report is sent from the clinic to the Motor Vehicle Branch. The report states the attendance of the group member, his contribution and his receptivity. Contributions and receptivity are each marked on a five point scale. Contribution scores indicate quantity of response during the sessions; receptivity, a subjective evaluation, is supposed to indicate quality of response and change from negative to positive statements if such change is observed.

Purpose of the Clinic

As stated above, the clinic attempts to improve the driver's attitude. In Krech's (1962) terminology, the clinic is attempting "positive attitude change; a change in attitude in the direction advocated

by a persuasive communication". (p. 216) When approaching the group for the first time in session one, the counsellor usually says something like this: "You are all adult drivers with varied experiences. This is not a driving course, because you all know how to drive. You are having difficulty, however, and that is why you are here; to find out why you are having trouble and to correct this trouble if possible."

The counsellor's introductory statement is calculated to put into words an unspoken feeling that the drivers may have, an uneasy feeling that all is not right with their driving behavior. The drivers often say that they are good drivers but there is a contradiction between that assertion and their records--assuming that violations are indicative of poor driving. By expressing the doubt and feeling of uneasiness, the counsellor hopes to motivate the driver to stay with the group to search for the cause of that feeling and to find answers which will make him feel better.

Such a motivating approach is congruent with Festinger's theory of cognitive dissonance, as reported by Krech (1962), which says that "an individual experiences discomfort when he holds logically inconsistent cognitions about an object or event, and that he is thus motivated to reduce the dissonance through cognitive and attitudinal changes". (p. 269)

Research by the Clinic

The Alberta Safety Council published a summary (Sharpe, 1966) of a study, conducted by Langlois. The study examined the statistics which were available at that time from a sampling of the people who had taken part in the clinic from the beginning of the program.

The problem studies was (a) to determine whether the various

methods used by the clinic were successful in achieving the purposes of the clinic, (b) to determine whether attitudes play an important part in driving behavior, (c) if "b" is true, to determine what attitudes influence driving behavior, (d) to determine the predictability of a safe driver and an unsafe driver, (e) to determine the accuracy of a counsellor's predictions.

Langlois was unable to establish firm relationships between methods and driver attitude improvement, between attitudes and driving behavior, but he did conclude that some counsellors were more accurate in predicting driving behavior than others. He further concluded that 50 percent of the drivers sampled did improve their behavior.

Since Langlois' study did not involve a control group, it was concluded that the study neither proved nor disproved the clinic's effectiveness; statistically an improvement of 50 percent could be obtained by chance in a random sample without a control group. The omission of a control group casts doubt also on other conclusions in the Langlois study.

Need for this Study

From the viewpoint of the Alberta Safety Council, there is a definite need to have a scientific study conducted into the achievement of the Traffic Court Clinic. It has been in operation for a number of years with only one statistical study to support the contention that the program is successful in achieving the changes in attitude which are deemed necessary to transform an unsafe driver to a safe driver.

A review of the relevant literature in the field of traffic safety education and of group methods of attitude change further demonstrates a need for continued research.

Purpose of this Study

This study will attempt primarily to determine, using controlled procedures, the most effective group method--teaching, guidance or counselling--of changing attitudes of drivers. A secondary objective is to find suitable criteria for measuring attitude change. Another product of the study is to ascertain those variables other than group methods which may have an influence on attitude change.

II. DEFINITIONS

Attitude

An enduring system of positive or negative evaluations, emotional feelings, and pro or con action tendencies with respect to a social object (Krech, 1962, p. 196).

Positive Attitude Change

A change in attitude in the direction advocated by a persuasive communication (Krech, 1962, p. 269).

Negative Attitude Change

A change in attitude in the direction opposite to that advocated by a persuasive communication.

Safe Driver

A person who holds an overall positive attitude with respect to driving (a social object).

Unsafe Driver

A person who holds an overall negative attitude with respect to driving.

Accident

"...that stage in a course of events at which a penalty is realized or at which damage is sustained--unintentionally". (Hall, 1966)

Conviction

A legal record of a violation for which a driver has been charged and found guilty by due process.

Although drivers are usually referred to the clinic according to the number and kind of convictions appear on their records, convictions alone need not be the only reason for referral; the driver's "attitude" observed during an investigation into an accident could prompt an official of the Driver Board of Review to recommend participation in the clinic.

The words "accident" and "conviction" have been deliberately omitted in defining safe and unsafe driver because it is quite possible that there are many drivers, though unsafe, who have no accident record; conversely, there are drivers who have accidents but who are classed as safe drivers. Similarly, there may be a few drivers on the highways who have no conviction record but who have violated the law on numerous occasions. The reason for justifying the terminology used in the foregoing definitions is to make the point that people cannot always be typed by their actions; sometimes it is the way people think, feel and tend to act which sets one group apart from another.

Types of Treatment

The experiment was designed to test the hypotheses using the methods listed below. These methods are well described in Goldman's paper "Group Guidance: Content and Process", in Kemp's book on group processes (1964, p. 42). The definitions which appear here are slightly changed from Goldman's to meet this particular situation--the driver problem. Appendix D is a detailed description of content and process as summarized below.

Teaching Group:

Content: academic subject matter, techniques of the task, factor skills of driving.

Process: leader plans, lecture and recitation.

Guidance Group:

Content: topics related to driving, work, education, how to do, police, law and information.

Process: leader and group collaborate in planning discussions, projects, panels, attitudes and opinions.

Counselling Group:

Content: nonacademic topics, not necessary to driving per se, types of behavior, interpersonal relations, frustrations, emotions.

Process: topics originate with group members, free discussion, role playing, feelings and needs emphasized.

III. HYPOTHESES

Hypothesis I: As measured by the Columbia Driver Judgment Test, subjects who have participated in the Traffic Court Clinic will have a greater positive change in attitude than will the control subjects.

Fine, Malfetti and Shaben (1965), co-authors of the Columbia Driver Judgment Test divided their sample into two categories--good drivers and bad drivers. Good drivers are:

...those whose behavior is characterized by attention, courtesy and foresight, used in combination with an awareness of human and vehicular limitations, and by the ability to integrate the stimuli from the employment of those characteristics so as to promote the safe, orderly and rapid flow of traffic (p. 17).

and bad drivers are:

...those who tend, generally to impede the flow of traffic and to be characterized by faulty decisions due to the singular or combined action of a variety of dimensions including inadequate feedback, limited knowledge, and lack of consideration for others (p. 17).

A question is raised by the introduction of the above two definitions. It was emphasized earlier that there is not necessarily a cause-effect relationship between attitudes and actions. Fine, et al have implied that there is a cause-effect relationship between attitude and behavior. The question raised, then, is whether a safe driver is the same as a good driver; an unsafe driver the same as a bad driver. The Columbia Driver Judgment Test measures behavior. Does it measure attitude? If the previously stated contention is valid, the instrument will not measure attitude change. The reader may question why the test was chosen as a criterion, especially since there seem to be reservations concerning its validity. One reason why the instrument was chosen is that there are no other tests available in driver education which are as well constructed, researched and documented. Another reason is that it seemed illogical and unjustifiable rejecting on the basis of personal skepticism what might be a useful measurement.

Bearing in mind the foregoing reservations, in terms of the Columbia Driver Judgment Test criterion, the subjects are expected to score as bad drivers on initial testing. It is expected also that the treatment groups will show a positive attitude change, which will move them toward the good driver category (Table I).

Since the reader may question the value of the scores in Table I, the following quotation from Fine, et al (1965) is offered as explanation.

"As some of the overlapping scores suggest, caution should be exercised in using the CDJT for individual selection, except as a screening device, or in conjunction with other indices, such as biographical records and behind-the-wheel performance tests. ...It is clear that additional validity statistics and norms are needed if the CDJT is to have wide and meaningful application in driver selection and as a criterion of driver behavior for research studies."(p.4)

TABLE I
COLUMBIA DRIVER JUDGMENT TEST^x
SCORES FOR "GOOD" AND "BAD" DRIVERS

SAMPLE	N	CDJT SCORES	
		RANGE	MEAN
"Good" Drivers	94	20-39	31.95
"Bad" Drivers	182	6-39	28.12

^xFrom Fine et al (1965) Table 5

Hypothesis II: As measured by the Siebrecht Attitude Scale, subjects who have participated in the Traffic Court Clinic will have a greater positive change in attitude than will the control subjects.

The Siebrecht Attitude Scale is a Likert type or summated scale. High scores indicate a positive attitude toward driving and low scores a negative attitude. Since it is assumed that the subjects hold negative attitudes, or weak positive attitudes, it is expected that they will score low on the Siebrecht Scale on pre-experiment testing. Expectations are that subjects who participate in the clinic, treatment subjects, will score higher on post experiment testing than on pre-experiment testing while control subjects will remain relatively constant.

Hypotheses III: As measured by the number of convictions received, subjects who have participated in the Traffic Court Clinic will have a greater positive change in attitude than will the control subjects.

The convictions criterion has two aspects, one quantitative in nature and the other qualitative. Driver abstracts will be examined and data tabulated for the six-week period prior to treatment. Similarly, after a six-week post experiment period data will be collected and

tabulated. Of considerable importance in limiting the value of this criterion is the recording time-lapse factor. For example, convictions incurred during the six-week post-experiment period may not be recorded on abstracts until after the abstracts have been examined.

The quantitative factor is calculated by summing the obtained convictions for each subject for each period. It is expected that means for both the experimental and the control groups will be similar on first examination but that they will have a downward trend for the treatment groups on post-experiment examination.

Qualitatively the same trends should prevail as in the quantitative aspect but scores will differ because they will be derived from the Demerit Rating Scale (Appendix G) which was applied unofficially during the experimental period by the Driver Review Board as it made referrals to the clinic. The demerit rating assigns a point value to each conviction thus indicating a degree of seriousness of the offense for which the driver was convicted.

It is expected that the demerit rating will be higher than the conviction rating for both periods considered but it will be lower in the post-experiment period for subjects who participated in the Traffic Court Clinic while it will remain high for the control subjects.

Hypothesis IV: On each criterion, the Columbia Driver Judgment Test, Siebrecht Attitude Scale and Convictions Score, the degree of positive attitude change will vary between the groups of subjects who have participated in the Traffic Court Clinic in relation to the method of treatment applied.

Although it is expected that there will be a positive attitude change by subjects who have participated in the Traffic Court Clinic, this should not be interpreted as a change from a "Bad" driver to a "Good"

driver, in Malfetti's terminology, or from an unsafe driver to a safe driver as defined earlier. Rather, it is expected that the treatment group mean scores will be indicative of a change in the direction of the "Good" or safe driver category.

The fourth hypothesis is in reference to the three types of treatment defined earlier: Teaching, Guidance, Counselling. It is expected that the formal teaching method will be least effective, that the non-directive counselling will be most effective and the informal teaching or guidance method will fall between the extremes. In terms of positive attitude change, subjects who experience the counselling method will have, it is expected, the greatest degree of change, subjects in the teaching group will have the least degree of change, and subjects in the guidance group will experience a comparatively moderate positive attitude change.

Other Variables

Variables such as age, driving experience, intelligence and scholastic achievement may account for some variation in results of testing and treatment. These uncontrolled variables will be considered during analysis, interpretation and discussion.

CHAPTER 11

RELATED LITERATURE

Research by the Alberta Safety Council on the Traffic Court Clinic has already been discussed and found wanting in validity. This chapter will deal more with literature related to drivers in general and attempts to change their behaviour through various methods of education. Also contained in this chapter are accounts of research which pertain specifically to attitude change by group methods, regardless of the nature of the group or the problem it presents to the group leader or counsellor.

Traffic Research Reports on Attitudes

Allstate Insurance Company (1962) has conducted several surveys into the efforts and effects of driver education. Klamm (1962), writing for Allstate says:

Despite other factors, the driver is the key to avoiding accidents. Instill in him the necessary degree of competence and sense of responsibility, and neither the police, insurance companies nor the hospitals will ever be concerned by his driving exploits. This is why we favor the training of all new drivers before a licence is issued. (p. 51)

Ross (1961), writing a series of articles in the New York Herald Tribune, said "...there is still no certainty about the characteristics (common to drivers involved in accidents)..." It would appear from his study, however, that there are indeed several factors which separate the poor driver from the excellent driver, as he states further in the same article as follows:

The composite picture of the bad driver that emerges from (these) studies is that of a self-centered, intolerant, aggressive, impulsive, easily-distracted person with a record of bad social adjustment, which

may include truancy in school, frequent job changing, a bad credit rating and trouble with the law in other than traffic matters. He may be young; he may not be very bright. (p. 2)

The foregoing description is further emphasized by Ross in his review of a study of six professional drivers who had received National Safety Council awards for safe driving. Their similarities are listed as: "none bought anything on time; all planned vacations well ahead of time; they never seemed to get into a fight about anything; always willing to let the other fellow have the right-of-way; were completely non-aggressive; middle-aged; not so quick at perceiving things and reacting to them as teen-agers." (p.3)

Wodsworth (1966), writing for the National Research Council of Canada, sees the traffic driving task as composed of two main components: 'tracking', or the techniques of auto driving, and 'social interaction peculiar to road traffic', or courtesies and communications between drivers. In his summary Wodsworth says: "Contemporary driver education and training systems are ineffectual in reducing accidents. Contemporary driver selection on the basis of performance, medical fitness and psychological ineptitude is, respectively, unused, unwieldy and unnecessary". (p. 26) He lays the blame for traffic accidents in the lap of maladjusted people.

...if social sanctions could operate in the traffic driving task, a powerful tool would become available for the control of social pathology and anti-social behaviour--both of which are responsible for the majority of traffic driving accidents. (p. 27)

Shaw (1965) who has been studying the driving behavior of South African drivers over a period of ten or more years, has made extensive use of projective tests such as the TAT. Since her studies have great relevance to this study, it is worth quoting in some length.

The present study can, therefore, be said to add confirmation to Tillman's hypotheses that a man drives as he lives; with the added qualification that, as driving offers opportunities for delusions of grandeur and anti-social behavior which are not usually tolerated in every-day life, the cause of many a bad accident record is the fact that people also drive as they would like to live. (p. 69)

There are undoubtedly some (drivers) who can never be redeemed. There are some whose redemption would be unduly expensive, as their defects could only be rectified by such measures as extensive training or prolonged therapy or (if such were possible) the installation of a new set of attitudes and values. And there are some for whom there is no cure but the slow process of growing up. (p. 71)

One further study reports that there is evidence of maladjustment among repeaters, and delves into the causes, such as the family difficulties and nervous pre-dispositions. In this study, Stack (1964) says: "The attitudes of repeaters are noticeably poorer than those of the accident-free".

Group Methods in Traffic Safety Education

The literature is voluminous in reporting attempts made at teaching, training and correcting youth and adults toward safe driving practices. It encompasses descriptions of many methods of approach, ranging from formal teaching through small group therapy to individual supervision of delinquent drivers.

The Allstate Insurance Company (1960) published a report of results obtained from teaching students how to drive, compared those results with students in the same population who did not benefit from the teaching program and arrived at the conclusion that teaching young people in the school setting was superior to not teaching them in the school setting.

Sawers (1961) described group discussion in his doctoral dissertation entitled "Nondirective Group Discussion Techniques in the Teaching

of Driver Education in High Schools". He emphasized that the group leader should not participate other than as a catalyst. His description is prefaced with the comment that "...there is reason to believe that the material can readily be adapted for use with adult education groups generally, and chronic violator groups in particular".

References are made by Ross (1961) to Dr. Arthur L. Conrad's project in Chicago. In this effort to reform drivers, six police teachers give instruction to volunteers. No information concerning their effectiveness was published, unfortunately.

Brody, research director of the Center for Safety Education in New York, suggests, Ross noted (1961) "a kind of group therapy for violators in which groups of from ten to thirty, with good leadership, would meet for not more than two hours, in an informal friendly atmosphere, to talk over such things as the comparative seriousness of traffic violations..."

Marx and Schlesinger (1965) used the group-discussion-problem-solving approach with a number of teen-agers. They felt that the group discussion method was the most effective way to get the teenage violator personally involved, and felt it to be superior to the film or lecture approach.

Perman and Schuster (1963) published a report on their work with six chronic violator drivers. Approximately 30 hours of group psychotherapy were completed. A similar group of six persons acted as controls. They report: "Since there were no significant differences between follow-up driving records of the therapy and control groups, it seems that group psychotherapy for chronic violator drivers is not a promising method for rehabilitating such drivers".

Obviously there is a great deal more literature describing the

variations of group methods used in traffic education. Much of the content lacks the quality of scientific research which is necessary for validity.

General Literature on Attitude Change by Group Methods

Krech (1962) asserts that the group affiliations of an individual greatly influence his attitudes. But, he notes, the individual picks and chooses those attitudes which are want-satisfying. (p. 197) In transferring Krech's concept to safety education, it is hoped that the erring driver would want to relieve the tension under which he is laboring, and would choose the attitude that the new group is accepting as a way of satisfying that want.

Successive chapters of Krech (pp. 200-263) place emphasis on the possibilities of changing attitudes and the methods with which attitude change can be accomplished. In those chapters, Krech points out the many variables which come into play when one attempts to change the attitudes of another or a group of persons. The variables are: values, intelligence, wants, interconnectedness of attitudes, the kind of information presented, the models which are presented, credibility, the media used, fear.

Mahoney (1947) takes a neurological point of view in his dissertation "Teaching for Attitudes Conducive to Safe Driving". Portions of the dissertation are incorporated into the American Automobile Association's book Teaching Driver and Traffic Safety Education (1960). He discusses the NBM (Neural Bias Mechanism) which, he says, is the route of all attitudes, prejudices, and biases. He outlines a most definite procedure which may be used to change attitudes. The method amounts to a process of conditioning. Some of his comments on discussion techniques follow:

A great deal is being said and written in favor of the discussion technique in driver education as a means

of developing constructive attitudes. It should be recognized that this is a method and that the same basic principles of attitude formation govern here as in any other teaching technique.

It should be remembered that the principles of leadership, of conditioning attitude behavior, apply to all methods. It is the appropriateness of the principles to the subject--the person to be affected-- that determine the effect, not adherence to one certain method. (ch. 4)

Mahoney makes another interesting observation, that we should not be so concerned with the attitudes toward this or that, such as the attitude toward police, or the attitude toward law, and so on, but we should concern ourselves with the attitude toward life, or safety in driving, which is a generalized concept of all the separate attitudes. The idea that there is only one attitude with which to be concerned tends to force one's thinking to focus on driver education and attitude change in a slightly different perspective. For example, Mahoney might suggest that the group not consider so much the separate entities which so often bother the delinquent driver, but to pay more attention to the idea of self-preservation in driving.

Literature related to group processes has been reviewed by members of the clinic staff and by this writer. Although there were conflicting observations reported in the literature on several aspects of group processes, such as the optimum group size, the purpose of the group, the role of the leader, there seemed to be a consensus of opinion that clinic groups should be structured according to the model described below.

The typical clinic group has between ten and twelve participants. The leader is trained in counselling. An informal atmosphere is encouraged. Seating is side-by-side around a table. Participants are invited to examine the common problem--driving--and to share experiences. Every attempt is made to develop a "we" feeling in the group and to have the

group reach joint conclusions and commitments. As much as possible, the leader is non-directive in his approach. Emphasis is placed on the value of the individual and his ideas rather than on what he has done in breaking the law.

Although the foregoing model may seem logical to those who developed the clinic, there are people who claim other models can be equally as effective. There is much controversy about group work, as Humphrey, Traxler and North (1967) assert: "A great deal of research is needed to prove or disprove many assumptions concerning the effectiveness of guidance through group techniques."(p. 202)

From the standpoint of scientific research, much still remains to be done. In Malfetti's (1962) words, "The results of these (numerous attempts to verify assertions) studies generally have revealed little." Much of what has been done in traffic safety is wanting in the scientific approach, especially as it concerns group methods of attitude change. What is needed is an adequate sampling of the population, controlled methods and control groups.

CHAPTER III

EXPERIMENTAL DESIGN

This chapter concerns itself with the experimental design as planned and as implemented. Although the design called for three criteria to be used one had to be excluded. The significance of that omission is not considered crucial, rather unfortunate. The matter of excluding one criterion is discussed further in the chapter. Each of the three proposed criteria is described as is the Driver Vocabulary Test, a late development to the original plan, a test which is a measure of academic performance and was constructed especially for drivers.

1. SELECTION OF GROUPS

Permission was obtained from the Minister of Highways to have the Driver Board of Review refer participants to the clinic with the understanding that half the referrals would be used as controls, while the other half would be assigned to one of three treatments at the clinic. The Board selected participants in the usual manner, based on the drivers' demerit points (Appendix G) through the normal operation of the Board.

It is understood that the Board's normal operation means that an arbitrarily set number of demerit points, once reached by a driver, automatically means he will be referred to the Traffic Court Clinic. That number is not made known to the public. It did appear from comments made by Board officials that a driver's demerit score was weighted or evaluated in terms of the time from the last conviction or the time the driver had held his license. Thus some participants came to the clinic with only one conviction--perhaps three demerit points--while others had

several convictions and demerit points to their discredit.

One exception to the normal procedure was that each driver referred was advised that he would be asked to participate in an experiment being conducted by the Alberta Safety Council.

Participants registered for the clinic in the manner established years earlier, by reporting to the Safety Council offices, leaving their names, etcetera, and being placed on a class list. During the period of the experiment, 30 drivers were registered for each of the three classes rather than the usual 15 per class. This departure from normal procedure enabled the splitting of classes into two groups, a control and a treatment. (Appendix D)

During the meeting of the first group, certain difficulties arose which resulted in the decision to treat that group as a pilot group. The main difficulty was the failure of the Columbia Driver Judgment test to arrive on time from the supplier in New York. Thus four groups were established, a pilot and three treatment groups. A fifth group inadvertently developed by the failure of some referrals to appear after they had registered. The final numbers for each group are summarized in Table II.

Prior to administration of tests, the subjects were briefed on the nature of the experiment and the necessity of having a control group selected at random for each clinic group. After testing, names of half the assembled drivers were drawn from a hat. Those drawn became the treatment group, those not drawn became controls and were advised that they would be recalled for further testing and registration at a later date. Thus it was made abundantly clear to each participant that he would have the same program as the next person no matter which group he was placed in; the difference would be in time only.

TABLE 11
DISTRIBUTION OF SUBJECTS ACCORDING TO GROUPS

Groups	Absent	Number Treatment	Control	Total Registered
Pilot	5	12	13	35
Guidance	6	14	15	30
Counselling	6	13	9	28
Teaching	6	17	14	37
Totals	23	56	51	130

11. ADMINISTRATION PROCEDURES

Selection took place during December 1968 and January 1969. Pre-testing and division of subjects into groups occurred during February and March 1969. Approximately 16 weeks elapsed, after which time all members were asked to return for post-testing. Post-testing was done in June 1969. Since fewer than half the subjects returned for post-testing, tests were mailed in July 1969 to those who had been unable to return.

Abstracts of driving records were obtained in July 1969. These showed the record of accidents and convictions to the end of June 1969.

The Columbia Driver Judgment Test was administered orally in pre-testing the pilot group, while the vocabulary and Siebrecht attitude tests were written. Because there had been an unsatisfactory experience, in terms of accepted testing procedure, with the pilot group, and because the Columbia test still had not arrived to enable prescribed administration procedures, the other three groups were not given the Columbia test in pre-testing. With the exception of the pilot group, pre-testing took about one-half hour to complete.

Subjects who did not appear for post-testing as scheduled were telephoned. With those subjects who could be contacted by telephone, arrangements were made for other testing times. Those who could not be reached by phone were asked by letter to complete the tests as directed and return them to the writer in a self-addressed stamped envelope.

Three weeks after mailing the tests, it was calculated that 70.5 percent of the treatment groups and 68.5 percent of the control groups or an average of 69.5 percent of the subjects had written the post-test, including those who had responded by mail. From the responses by telephone, letters and returned envelopes, it was concluded that the main reason for less than 100 percent response was an extremely mobile sample which either could not be reached or for whom the experiment and the clinic had become irrelevant as a result of separation by distance.

Other than convictions and accidents, no data is available for comparison of those who did not respond with those who did. The total referred (130) compared with the sample has higher post-experiment scores. Whether this difference results from the inclusion of data from the non-respondents or from other factors, or whether it is significant or not, is unknown. It was not considered a major part of the study but is raised as an interesting aside. Table XVI contains the figures for those who wish to make comparisons.

After it was determined that all data had been received, tabulation began. Only one more test was received by mail, a month later, and the data from it was included in the statistics.

As was previously mentioned, three qualified counsellors were selected to conduct the experiment. Each was asked to do the following: conduct his group according to the method outlined for him; report in writing on subjects' scores; report on process and content of each session;

tape record portions of each session (about one quarter of each). A summary of each report may be found in Appendix E.

Tape recordings were listened to by competent judges-counsellors in practice who were not related to the Safety Council or to the experiment. They concurred that the treatments used and recorded were those described earlier by this writer.

Complete details of administration and clerical procedures may be found in Appendix D.

III. THE TESTING INSTRUMENTS

COLUMBIA DRIVER JUDGMENT TEST

Construction

The instrument (Appendix A, p. 59) developed and described by Fine, Malfetti and Shaben (1965) was constructed through the critical incident technique in which incidents of "good" and "bad" driving were collected from approximately 1,000 professional drivers. From the incidents presented, over 3,000 critical driving behaviors were abstracted. Representative samples of the critical driving behaviours were used to construct test items. These were judged for consistency by a panel of experts.

From 180 questions which were used to test "bad" and "good" drivers, classified on the basis of accident and violation records, 40 questions with similar difficulty and internal consistency were chosen for each of two forms--A and B.

Reliability

The authors report split half reliability coefficients of .89 and .87 on Forms A and B respectively.

Validity

Use of behavior measures of driving proved lacking in validity.

Thus, the authors validated the instrument by the method of development and by administering the tests to authorities in the field of traffic safety. Content validity proved high. Indications were that there is a significant difference between the scores of "bad" drivers and those of "good" drivers (as defined on pages 11-13). Malfetti reports, "This 3.83 point difference is statistically significant (p less than .001)...($p.3$)". (See Table 1, p. 11)

Other measures of validity indicated that "bad" drivers scored low on the CDJT and high on scales of anxiety, authoritarianism and fantasy.

SIEBRECHT ATTITUDE SCALE

Construction and Scoring

This attitude scale is an opinionnaire in the sense that subjects are asked to express their opinion on each of 40 questions on a five-point scale. Responses are weighted and scoring is done by tabulating the score for all items checked.

Standard responses were established by administering the scale to 125 experts in the traffic safety and related fields of work.

Reliability

Siebrecht reports, "By the split-half method a reliability of .81 + .02 PE has been scored in a group of 100 students enrolled in driver training courses." (Siebrecht, Manual, 1941)

Validity

Validity was established by the use of expert judges. Test items which differentiated significantly between the mean core of high and low-scoring groups of subjects were used. Critical ratios between groups presumed to possess a difference of attitude toward the issue of safe driving are well above the desired minimum of 3.00.

Administration

It is emphasized by the test author that the greatest difficulty

with the test is in its administration; he advises the administrator to ensure anonymity and in this way to attempt to obtain true responses rather than those responses the subjects think you desire. Due to the nature of the experiment, it was impossible to obtain the desired measure of secrecy; participants were asked to write their names on test papers but advised that the results would be confidential. (See Appendix D, p. 70, item 3)

Norms

In Table III scores are based upon "standard responses" of driving authorities and the testing instrument derived from those responses. It may be of interest to the reader to make note of the maximum and minimum scores obtained on this scale. The maximum score is one which may have been obtained had the subject marked the highest scored response on each question of the instrument while the converse applies to minimum scores. The "standard" score is the "correct" score as marked by the judges or authorities. Sub test (Appendix B, p.59) scores were derived by the same method.

The sub test score for each subject was "extracted" from the full test by tabulating the responses of each subject on selected items which are reported by the test author to be measurements of attitude factors. The scores thus achieved were then compared with those of the experts. Factors so tabulated are: responsibility, co-operation, courtesy, concern.

TABLE III
SIEBRECHT ATTITUDE SCALE POSSIBLE STANDARD SCORES

POSSIBLE SCORE	TOTAL TEST	SUB TEST
Maximum	200	50
Standard	173	45
Median	120	30
Minimum	40	10

It was stated in Hypothesis II that all experimental subjects are expected to score low on the Siebrecht Attitude Scale pre-test. Table IV is a comparison of scores for selected groups to whom the test was administered by Siebrecht. Expectations are that the clinic sample scores will compare with the Sophomore group in Table IV. However, most of the clinic sample is experienced in driving and this factor may tend to elevate the expected scores. Also anticipated are pre-experiment scores falling between the median and standard scores (Table III). These expectations are held for the sub test as well as for the total instrument.

TABLE IV
SIEBRECHT ATTITUDE SCALE
STANDARD SCORES FOR SELECTED GROUPS¹

GROUPS	CASES	MEANS	SIGMA
Freshmen	192	144.10	17.54
Sophomores	472	151.05	17.36
Juniors	360	155.81	18.44
Seniors	413	158.15	18.76
Driving-training students	430	164.53	13.77
Driving-experience students	158	168.20	12.84

¹From Siebrecht Attitude Scale - Manual of Directions (1941).

DRIVER VOCABULARY TEST

This instrument was devised to meet the needs of driver clinics in New York. It is designed to measure academic performance especially in relation to the subject's mastery of vocabulary found in driving situations. The Driver Vocabulary Test might compare with some intelligence tests but no claims are made by its author in that regard.

Adams (1966) in his letter (Appendix C, p. 66) asked that the

instrument be administered to aid in statistical validation. The test was originally administered to driver clinic subjects who represented a wide cross-section of the population, from illiterates to well educated persons. Available statistics (Appendix C, p. 66) were taken from tests administered to samples of Grades 4, 6 and 8 pupils and adult violators.

The test was included in the present study as a courtesy to its author but with the aim of having a comparison of the Traffic Court Clinic subjects with subjects in clinics elsewhere in North America.

CHAPTER IV

STATISTICAL TREATMENT AND RESULTS

The manner in which the data was treated statistically and the results of such treatment are described in detail in this chapter. Each of the four hypotheses is considered separately in the first portion of the chapter while the second half is devoted to results, analysis and interpretation of data retrieved from demographic variables, driving experience variables and the vocabulary test.

Originally it was planned that data would be retrieved from six groups: three treatment groups, three control groups. Eight groups developed: three treatment, three control, one absent, one pilot. Those who were referred but failed to register are included in the absent group.

As one would expect under the circumstances of the administrative procedures described, not all subjects responded to every item in post-experiment testing. Incomplete data recovery, therefore, forced organization of data retrieved into three categories. Such organization enabled the maximum use of data retrieved and the minimum discarding of relevant material.

Thus, in Category A (Table V) data was retrieved from subjects in each of the eight groups on only a few variables. Category B is for data retrieved from a large number of subjects on selected variables from the treatment and control groups only. Category C is for data received from those subjects who had responded to every item. If the reader wishes to compare the numbers in the original plan with those which resulted in fact, he should refer to Table II, page 23. Note that the numbers are similar in total but different in arrangement.

TABLE V
SUBJECTS FROM WHOM DATA RETRIEVED
COMPARED WITH VARIABLES USED

Variable Category	GROUPS				Total
	Pilot	Absent	Treatment	Control	
A. Few variables	25	23	44	38	130
B. Selected variables			56	51	107
C. All variables			31	26	57

Treatment of Data

Non-parametric tests of significance were applied to the data. These were the Kruskal-Wallis One-Way ANOV by Ranks and the Wilcoxon Matched-Pairs Signed-Ranks test of significance. Also, to make some tables more meaningful, the 25th, 50th and 75th percentiles were calculated to enable arrangement of tables by quartiles. Formulæ used were:

Wilcoxon test: as described in Ferguson (1966) p. 360, using the T score Table 1, page 416 and for large samples:

$$z = \frac{T - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

Kruskal-Wallis ANOV:

$$H = \frac{12}{N(N+1)} \sum_{i=1}^k \frac{R_i^2}{n_i} - 3(N+1)$$

(Ferguson, 1966, p. 362)

This statistic has a chi-square distribution with k-1 degrees of freedom for samples of size n_i greater than 5.

Percentile Point Formula:

$$P_i = L + \frac{p \frac{N - F}{f_i}}{1} \times h$$

(Ferguson, 1966, p. 260)

Results of Treatment

Hypothesis 1: As measured by the Columbia Driver Judgment Test, subjects who have participated in the Traffic Court Clinic will have a greater positive change in attitude than will the control subjects.

Due to unforeseen, unfortunate circumstances noted earlier, it was not possible to administer the Columbia Driver Judgment Test to the subjects prior to treatment. Therefore the hypothesis is untestable. However, all subjects were administered the test on post-treatment.

Table VI shows CDJT post-experiment test scores from highest to lowest to be Guidance, Counselling, Teaching, Treatment respectively. The Kruskal-Wallis test indicates the differences are not significant at the ten percent level. The null hypothesis of no significant difference is accepted.

As a matter of interest, and to compare the expected results with those obtained, the rank order of the clinic groups' scores is placed with those scores of "Good" and "Bad" drivers described by the test authors (Table VII). It would appear from this ordering that the clinic drivers (referred because of inadequate driving records) are all "good". A further irony is the placing of Driver Education Teachers in Training (not shown in Table VII) at 33.07 mean score, a little better than a seventh of the clinic experimental group; and Peace Corps Volunteers--mean score 34.24--rating better than about two-thirds of the clinic group. Since there is no statistical significance to the foregoing ranking, no serious inference is being made.

The findings, however, do not in any way invalidate the test as a useful instrument. Too many requirements for correct administration were violated to hope that its use would produce significant results. For example, mailing the test negates the time control requirement and the necessity of the subject's doing the test unassisted. The data was presented here primarily to meet a requirement of a report on a controlled experiment, namely, to report the failures as well as the successes.

TABLE VI

PERCENTAGE DISTRIBUTION OF COLUMBIA DRIVER JUDGMENT
TEST POST EXPERIMENT SCORES BY QUARTILES

QUARTILE	GROUPS								TOTAL
	TREATMENT				CONTROL				
	G	C	T	TOTAL	G	C	T	TOTAL	
4th	50	20	18	28	8	0	25	12	20
3rd	25	30	18	24	33	60	25	36	30
2nd	13	50	36	34	50	20	12	32	33
1st	12	0	27	14	8	20	38	20	17
Mean	35.8	34.4	33.5	34.48	34.0	33.4	32.1	33.28	
N=	8	10	11	29	12	5	8	25	

[illegible]

Not significant at the .10 level - Accept the Null Hypothesis

TABLE VII
COMPARISON OF CDJT "GOOD/BAD" DRIVERS SCORES WITH SAMPLE

GROUPS	N	RANGE	MEAN
Guidance Treatment	8	31-40	35.80
Combined Treatment	29	30-40	34.48
Counselling Treatment	10	32-37	34.40
Guidance Control	12	29-37	34.00
Teaching Treatment	11	30-38	33.50
Counselling Control	5	28-36	33.40
Combined Control	25	22-39	33.28
Teaching Control	8	22-39	32.10
"Good" Drivers	94	20-39	31.95 ¹
"Bad" Drivers	182	6-39	28.12

¹See Table I

Hypothesis II: As measured by the Siebrecht Attitude Scale, subjects who have participated in the Traffic Court Clinic will have a greater positive change in attitude than will the control subjects.

Table VIII shows slight differences between pre-experiment treatment and control group means and even less on post-experiment test means. The changes indicate an upward change by the treatment group but a downward change by the control group.

TABLE VIII

PERCENTAGE DISTRIBUTION OF SIEBRECHT ATTITUDE SCALE
SCORES BY QUARTILES ON EACH TEST ADMINISTRATION

QUARTILE	TREATMENT GROUPS				TREATMENT GROUPS			
	Guid- ance	Counsel- ling	Teach- ing	Total	Guid- ance	Counsel- ling	Teach- ing	Total
PRE-EXPERIMENT TEST								
4th	10	10	36	19	23	--	25	19
3rd	40	50	36	42	39	--	37	31
2nd	--	10	9	7	15	40	--	15
1st	50	30	18	32	23	60	38	35
Mean Scores	148.8	153.3	161.2	156.3	161.7	144.4	162.7	158.7
Number	10	10	11	31	13	5	8	26
POST-EXPERIMENT TEST								
4th	11	40	27	27	15	--	25	15
3rd	33	20	27	27	54	--	50	42
2nd	11	10	27	16	15	20	12	15
1st	45	30	18	30	15	80	12	27
Mean Scores	149.5	160.9	159.9	157.0	160.2	139.8	165.0	157.7
Number	10	10	11	31	13	5	8	26
								57

Notes: Percentages have been rounded to the nearest whole number to facilitate reading and interpretation.
Each percentage is the percent of the number which appears at the bottom of each column.

Statistical results obtained with the Kruskal-Wallis test appear on Table IX. These results indicate: a. acceptance of the null hypothesis of no difference at the 10 percent level on pre-experiment testing for the whole sample; b. rejection of the null hypothesis--differences are statistically significant--at the 10 percent level on post-experiment testing for the whole sample. From this data it may be inferred that subjects who participated in the clinic showed some measure of attitude change as measured by the Siebrecht Attitude Scale.

TABLE IX
COMPARISON OF KRUSKAL-WALLIS TEST RESULTS
ON SIEBRECHT ATTITUDE SCALE TOTAL SCORES

NULL HYPOTHESES	N	df	H	χ^2 Req'd at .05 level	.10 level	Accept or Reject Ho
PRE-EXPERIMENT						
GT = GC ^a	23	1	1.68	3.84	2.71	Accept
CT = CC	19	1	2.31	3.84	2.71	Accept
TT = TC	19	1	-0.01	3.84	2.71	Accept
Sample	57	5	6.21	11.07	9.24	Accept
POST-EXPERIMENT						
Sample	57	5	12.80	11.07	9.24	Reject

^aH₀: GT = CC means "The Null Hypothesis is that Guidance Treatment Means are equal to the Guidance Control Means".

Siebrecht Sub Test: Sub test scores summarized on Table X show a downward change for both treatment and control groups, the treatment group changing most. The Wilcoxon test of significance confirms a significant difference exists and the null hypothesis is rejected. It may be inferred from this data that subjects who participated in the clinic showed some measure of attitude change.

Regarding the sub test results, it would appear that: subjects in the counselling group showed a small positive attitude change; subjects in the teaching group showed a negative attitude change; and subjects in the guidance group showed the most negative attitude change.

TABLE X
PERCENTAGE DISTRIBUTION OF SIEBRECHT ATTITUDE SCALE
SUB TEST SCORES BY QUARTILES ON SEPARATE
TEST ADMINISTRATIONS

TIME	GROUPS								TOTAL
	TREATMENT				CONTROL				
	Q'tile	Guid.	Couns.	Teach.	Tot.	Guid.	Couns.	Teach.	
PRE-EXPERIMENT									
4th	20	10	36	23	15	0	12	12	18
3rd	20	10	36	23	39	20	50	38	30
2nd	10	40	18	23	23	40	0	19	5
1st	50	40	9	32	23	40	38	31	35
Means	38.1	38.2	42.4	39.67	41.6	38.6	39.3	40.38	
POST-EXPERIMENT									
4th	0	20	36	20	23	0	25	19	20
3rd	0	30	18	17	38	40	25	35	25
2nd	44	30	27	33	23	40	38	31	32
1st	56	20	18	30	15	20	12	15	23
Means	35.1	38.9	40.8	38.46	39.5	38.4	41.0	39.76	
N=	10	10	11	31	13	5	8	26	57

otes: Kruskal-Wallis Test of Significance Pre-Experiment:

N = 57 ; df = 5; H = 5.02;

χ^2 req'd at .10 level = 9.24;

Not significant; accept null hypothesis.

Wilcoxon Test of Significance Differences:

N = 57; T = 310.5; SD = 125.89; z = 4.1;

z Req'd at .05 level = 1.96

Differences significant; Reject null hypothesis.

Hypothesis III: As measured by the number of convictions received, subjects who have participated in the Traffic Court Clinic will have a greater positive attitude change than will the control subjects.

The results of the Kruskal-Wallis tests (Table XI) show that the differences are not statistically significant. The null hypothesis is therefore accepted.

As previously discussed under the heading Hypothesis III, (Page 11) contradictory results were expected from the convictions--demerit criterion. It was noted in that discussion that demerit ratings were weighted scores and that data was slow in being recorded on driver abstracts.

TABLE XI
COMPARISON OF DATA FROM THE KRUSKAL-WALLIS
TEST FOR DEMERIT RATINGS

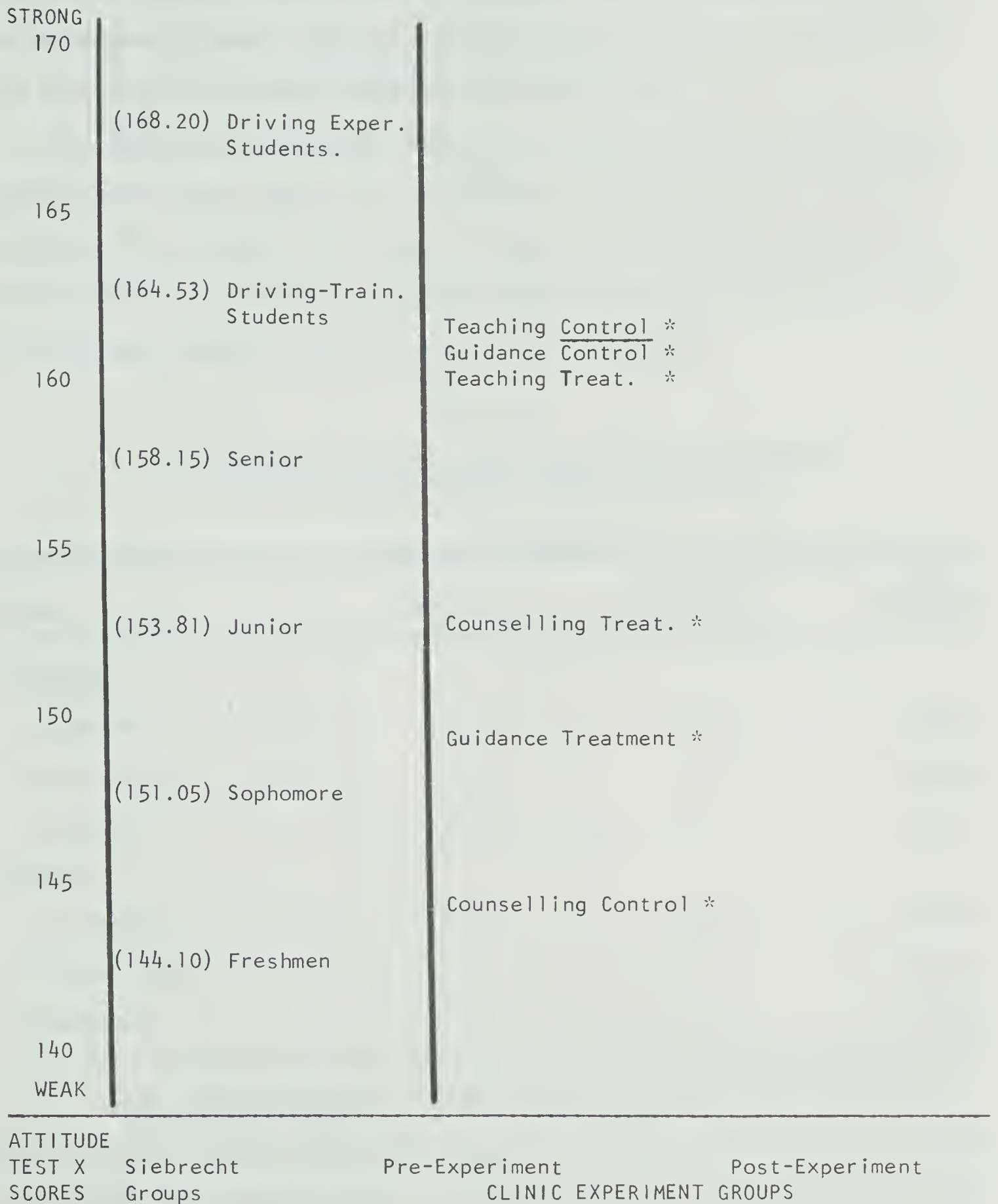
RATING VARIABLE	N	df	H	X ² Req'd		NULL HYPOTHESIS
				at .05	at .10	
16 weeks pre-exp't.	58	5	0.956	11.07	9.24	Accept
16 weeks post-exp't.	58	5	-8.29	11.07	9.24	Accept
PRE MINUS POST	58	5	4.64	11.07	9.24	Accept

Hypothesis IV: On each criterion, the Columbia Driver Judgment Test, Siebrecht Attitude Scale and Convictions Score, the degree of positive attitude change will vary between the groups of subjects who have participated in the Traffic Court Clinic in relation to the method of treatment applied.

The Siebrecht criterion, Table VI, illustrated by Graph I, shows a change of attitude scores with an unusual pattern. Guidance Treatment and Counselling Treatment groups obtained higher scores on post-experiment testing while the Teaching Treatment group obtained a lower mean score. The opposite effect is noticed for the control groups: Teaching Control raised while Guidance Control and Counselling Control lowered. The most outstanding

GRAPH 1

COMPARISON OF MEAN SCORES ON SIEBRECHT ATTITUDE SCALE
BETWEEN SIEBRECHT GROUPS AND CLINIC EXPERIMENT GROUPS



positive change was the Counselling Treatment group. It may be inferred from this data that of the Treatment Groups: a. subjects in the Counselling Group showed the most positive attitude change; b. subjects in the Guidance Group showed a moderate positive attitude change; c. subjects in the Teaching Group showed a negative attitude change.

Tests of significance (Table XII) of the difference between pre and post experiment measures on the Siebrecht criterion show no significance for the Guidance and Treatment groups, but significant differences for the Counselling group. It is concluded that the most significant positive attitude change resulted in the counselling group.

TABLE XII
COMPARISON OF WILCOXAN TEST RESULTS ON THE SIEBRECHT
ATTITUDE SCALE PRE/POST SCORE DIFFERENCES

GROUP	N	OBTAINED T	Req'd T at .05 level	NULL HYPOTHESIS
<u>Treatment</u>				
Guidance	10	-11.0	8	Accept
Counselling	8	1.5	4	Reject
Teaching	11	-31.5	11	Accept
<u>Control</u>				
Guidance	13	-37.5	17	Accept
Counselling	4	0	0	Accept
Teaching	7	12	2	Accept

Conviction Criterion: A distribution of demerit rating scores by quartile is presented (Table XIII) because it shows the same pattern as seen in the data for Siebrecht scores. Whether this pattern would remain constant had all conditions been fulfilled is debatable. Since the data is

statistically not significant, however, no inferences may be drawn about the pattern of data on the convictions criterion.

TABLE XIII
PERCENTAGE COMPARISON OF PRE AND POST EXPERIMENT
DEMERIT RATINGS BY QUARTILE

QUARTILE	GROUPS								TOTAL
	TREATMENT				CONTROL				
	Guid.	Couns.	Teach.	Total	Guid.	Couns.	Teach.	Total	
16-WEEK PRE EXPERIMENT									
4th	10	40	18	23	8	20	12	12	17
3rd	40	20	55	38	23	20	25	23	32
2nd	40	30	27	32	38	40	63	46	39
1st	10	10	0	6	31	20	0	19	12
Means	3.9	5.3	5.3	4.87	3.3	4.2	4.3	3.84	
16-WEEK POST EXPERIMENT									
3rd + 4th ^a	20	0	36	19	15	20	25	20	18
1st + 2nd ^b	80	100	64	81	85	80	75	80	82
Means	0.7	0.0	1.0	0.58	0.6	1.2	0.7	0.76	
N=	10	10	11	31	13	5	8	26	57

^a and ^b Since post-experiment scores fell mostly in lower half, the top and bottom halves only are shown.

DEMOGRAPHIC INFORMATION

Presentation of data which makes meaningful interpretation possible becomes a real problem with the variety of groups and variables involved. The presentation is being attempted here because there are certain questions still unanswered and there are additional hypotheses to be formulated. For example: Why did some referrals fail to register? How does the pilot group compare with the final experimental group? How does the total number referred compare with the experimental group? What further investigation is indicated?

Sex Variable (Table XIV) It is often asked why there are not more females in the clinic. Obviously the reason is that fewer females than males are referred to the clinic but that is not the answer to the underlying question, which is why aren't more females referred? The present study has not attempted to answer that question, nor will this writer attempt to do so here. What is relevant here is what influence is exerted in the group which is co-educational in composition.

Over the years the clinic has received female referrals in a ratio of one per hundred. The female-male ratio in this study is slightly less than the long-term average.

During discussions with counsellors concerning the influence exerted on the group by the presence of a female, opposite opinions have been expressed. Some counsellors think that there is inhibited discussion in a co-educational group while others think the discussion is more stimulating. Most counsellors agree that the effect depends on factors other than sex alone, such as the personality of the female and the "group personality".

Although the group, in this experiment, with the most marked change included a female, it cannot be inferred from this fact that the female had that great an influence. A comparison of scores with those of the females may be seen in Appendix H.

Age Variable Referring to Table XV, the age means are similar between the total referred and the final experimental groups. As seen in Table XIV, there is no pattern of distribution which would help explain variation in criterion results. It has been hypothesized that younger people are more susceptible to change through group methods than older people. There is no support for that hypothesis to be found in the data, nor is there support for the converse. Is it possible that there is an optimum age range rather than a maximum age or minimum age at which group methods are most

effective? For example, the most effective group work could be with adolescents with a group range of four years or adults with the same group range but the least effective might be a group of fifteen-year-olds or a group of thirty-five year-olds and so on.

Marital Status Variable. Some clues to the reason for change may be found in this variable. Although there are slightly more people who are single, there is considerable variation between groups. For example, the teaching groups contain a high percentage of single people. This difference may have a bearing on the differences between groups noted earlier, that the mean for the Teaching Group lowered, while the mean for Counselling Group raised on the Siebrecht Attitude Scale. Almost the opposite pattern exists for the other groups. This phenomenon suggests that further investigation may be fruitful in determining the cause-effect relationship between marital status of subjects and their attitude change.

Children Variable. It has been postulated in many quarters that the added responsibility of children directly influences one's driving behavior and attitude. The percentages in Table XIV show variations, between groups, of the number of children dependent on the subjects in each group. This variable alone or in combination with marital status, also warrants further investigation.

Occupation Variable. The occupation factor was intended to indicate a measure of socio-economic level as defined by Reissman (1959, p. 401). If one were to hypothesize that individuals of higher socio-economic levels would show greater changes, this may be borne out in the data which shows 80 percent of the counselling group in the upper levels. However, the pattern does not give an indication as to direction of change. Further study on the occupation variable, with attention to the aspired versus the actual socio-economic level may yield very interesting results.

TABLE XIV
COMPARISON OF GROUPS BY DEMOGRAPHIC VARIABLES

VARIABLES	GROUPS								Total Sample	
	TREATMENT				CONTROL					
	Guid.	Couns.	Teach.	Tot.	Guid.	Couns.	Teach.	Tot.		
<u>SEX</u>										
Male (N)	10	9	11	30	12	5	8	25	55	
Female (N)	0	1	0	1	1	0	0	1	2	
Total (N)	10	10	11	31	13	5	8	26	57	
<u>AGE</u>										
35-61 (%)	40	30	18	29	8	20	25	15	23	
25-34 (%)	10	30	18	19	38	40	12	31	25	
21-24 (%)	10	30	27	23	38	20	38	35	28	
16-20 (%)	40	10	36	29	15	20	25	19	24	
Mean Age	30.7	29.7	26.7	28.9	26.2	28.4	27.0	26.8	27.0	
<u>MARITAL STATUS</u>										
Single	60	50	73	61	46	40	75	54	38	
Married	40	50	18	36	54	40	25	42	39	
Divorced	0	0	9	3	0	20	0	4	3	
<u>CHILDREN (N)</u>										
2-6	37	33	18	29	23	20	38	26	28	
1	0	11	9	7	27	0	25	19	13	
0	63	56	73	64	54	80	37	54	59	
Mean N.	1.3	1.2	0.6	1.0	0.8	0.8	1.3	0.9	0.963	
<u>OCCUPATION</u>										
4th Q'tile	0	30	9	13	38	40	37	39	25	
3rd Q'tile	10	50	36	32	31	20	0	19	26	
2nd Q'tile	50	0	18	23	15	0	25	15	19	
1st Q'tile	40	20	36	32	15	40	38	26	30	
Mean Score	57.3	65.4	59.6	60.7	66.7	61.4	62.4	64.3	62.4	

Continued

TABLE XIV (Continued)
COMPARISON OF GROUPS BY DEMOGRAPHIC VARIABLES

VARIABLE	GROUPS								Total Sample
	TREATMENT				CONTROL				
	Guid.	Couns.	Teach.	Tot.	Guid.	Couns.	Teach.	Tot.	
<u>EDUCATION (Yrs.)</u>									
13-16	20	10	27	19	23	0	0	12	16
12	50	20	18	29	46	0	25	31	30
10-11	20	40	18	26	23	60	63	42	33
7-9	10	30	36	26	8	40	12	15	21
Mean Yrs.	11.7	10.5	10.9	11.0	12.0	9.2	10.7	11.1	11.1

TABLE XV
COMPARISON OF GROUPS ON SELECTED
DEMOGRAPHIC VARIABLES

GROUP	N	VARIABLES									
		AGE		MAR.STATUS ^b		CHILDREN		OCCUPATION ^c		EDUCATION	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Absent	23	25.3	12.8								
Referrals	130	27.0	10.6								
Pilot											
Treatment	12	24.9	6.2	1.3	0.5	0.2	0.4	62.9	11.0	9.9	3.4
Control	13	32.2	17.1	1.5	0.7	1.4	2.3	57.2	11.0	10.6	2.5
Sample ^a	57	27.0		1.4		0.96		62.4		11.1	
All											
Controls	51	27.4	10.6	1.2	0.8	0.8	1.5	61.3	13.1	10.4	2.9
All											
Treatments	56	27.4	9.7	1.0	0.7	0.5	1.2	60.4	12.5	10.6	3.4

^a Scores from Table XIV

^b Single is 1, Married is 2

^c Occupational prestige scores. Possible range 33-93. (Reissman, 1959, p. 401)

Education Variable. Here again there is no consistent pattern. For example (Table XIV) 70 percent of the Guidance Group has above grade 11 standing and 70 percent of the Counselling Group has below grade 12, but members of both groups raised their scores on the Siebrecht criterion. There seems to be little relationship between the two variables--education and occupation--as one would expect.

One might conclude from this data that the number of years of education has little effect upon driving attitude and behavior or the attempts to change them by group methods. Since there are no correlation statistics to substantiate such a conclusion, it is presented as an hypothesis for future study.

DRIVING EXPERIENCE VARIABLES

Table XVI is an example of what was meant (Table V, p. 36) when discussing categories of data retrieved. The blank spaces in Table XVI are indications that data were either not retrieved or were incomplete. The sample group is that group which was divided into treatment groups and control groups. Included in the groups labelled "All Controls" and "All Treatments" are the pilot groups and the sample groups.

The main purpose for showing data in Table XVI is to compare the data for the sample with all people referred to the clinic. It seemed pertinent to the study to determine whether or not the subjects who participated in the clinic varied in any special way from those persons who were referred but who did not participate. In other words, are the participants different from the non participants?

The subjects who participated are comparable with non participants on the variables: years of experience, type of vehicle driven, how they learned to drive, reported accidents, 16 weeks pre-experiment demerit points. They are not comparable on the variables: miles driven, recorded

accidents, recorded convictions, total demerit points, 16 weeks post-experiment demerit points.

It would appear from this data that those subjects who participated in the clinic have driven fewer miles, have more accidents but fewer convictions, a smaller total demerit rating, a smaller post-experiment demerit score than the non participant referrals. The pilot groups are approximately analogous to the sample.

Notice that subjects tended to report more accidents than are recorded by the Motor Vehicle Branch. Notice also that the sample subjects who have recorded fewer convictions and more accidents than the non participants have a higher demerit-conviction ratio. This ratio indicates the severity of convictions.

From the data summarized above, it is tentatively hypothesized that:

- a. those who participate in clinics are inexperienced drivers with serious problems in driving behavior;
- b. drivers with a small demerit-conviction ratio (the youngest, see Table XV) do not feel a need for education or driver improvement;
- c. the attitude of the young is one of irresponsible confidence, while the older feel anxious, insecure, and aware of a need to change.

Whereas Table XVI is a comparison of data for all referrals to the clinic, Table XVII is a comparison of the experimental group data only. The following paragraphs are written with reference to Table XVII.

Years of Driving and Miles Driven. Taken together these two factors represent the most important driving experience variable. The data shows that the most experienced drivers are in the guidance group, next in experience are in the counselling group and least experienced are in the teaching group. Since criteria results showed a different pattern--counselling, guidance, teaching--most benefited in that order, no inferences

TABLE XVI
COMPARISON OF ALL GROUPS MEANS ON DRIVING
EXPERIENCE VARIABLES

VARIABLES	GROUPS						
	Sample	Pilot Treat.	Pilot Cont.	Absent	Total Ref'd	All Cont.	All Treat.
N =	57	12	13	23	130	51	56
Years Experience	10.88	8.25	15.23			10.25	10.50
Miles Driven (Thousands)	16.60	21.66	18.0			23.50	23.71
Type of Vehicle ^a	1.14	1.16	1.0			1.13	1.10
How Taught ^b	1.68	1.66					1.73
Accidents Recorded	1.87	1.66	1.3	1.3	1.76		1.76
Accidents Reported	2.19	2.16					2.32
Convictions Recorded	3.6	4.5	3.92	4.69	4.43		4.14
Demerit Convic. Ratio	3.21	2.83	3.0	2.53	2.94		3.07
Demerit Rating Total Points	11.57	12.75	11.76	11.91	13.04		12.71
16 Weeks Pre- Experiment	3.5	2.58	2.92	3.17	3.74		3.98
16 Weeks Post Experiment	0.66	0.25	0.61	0.78	0.77		0.71

^a Type of vehicle: 1, Auto; 2, Truck.

^b How taught: 1, Self; 2, Family; 3, Friend.

can be made concerning the effect driving experience may have had on treatment. The only way to test a hypothesis involving the experience variable would be to control for experience and expose various levels of experience to the respective treatments.

Vehicle Driven. It was thought that the kind of driving, truck driving as opposed to driving for pleasure for example, might exert an influence on attitude change. Since most of the drivers use an automobile

for most of their driving, it seems that little weight can be attributed to this factor in influencing attitude change. The fact that so few professional drivers such as truckers and bus drivers attend the clinic may be an indication, not only of fewer accidents and convictions on their part, but of a positive attitude toward driving compared with the clinic group. A factor in selection of professional drivers may be the attitude they possess and the number of convictions on their driving records.

How One Learns. It may be argued that the greatest influence on one's behavior and attitude is the manner by which he learned to drive. Since self-teaching and being taught by a family member are virtually the same, the writer submits it cannot be shown by the data here whether or not this factor had an influence in determining the results. Had there been a sufficient number of subjects with driving-school training, there may have been a difference. Herein lies ground for further investigation. Why were there not more people referred who had training from driving schools? Is it possible that trained drivers have fewer poor driving attitudes than the untrained, self-taught driver?

Recorded Accidents. Here there seems to be a direct relationship; the more accidents, the least effective is the treatment. The teaching group, with the highest percentage of accidents, had a negative attitude change, while counselling group with the fewest accidents, had the most positive attitude change.

Recorded Convictions. There is little difference between groups on this variable, such that convictions alone, it is concluded, have little effect on attitude change. This is not necessarily true considering the demerit ratings which reflect gravity or intensity rather than quantity. For example, drivers with several "minor" offenses may respond quite differently to treatment than will drivers with only a few "major" offenses.

TABLE XVII
PERCENTAGE COMPARISON OF GROUPS BY DRIVING
EXPERIENCE VARIABLES

VARIABLE	GROUPS								TOTAL
	TREATMENT				CONTROL				
	G	C	T	Tot.	G	C	T	Tot.	
YEARS DRIVING									
17-36	40	40	18	32	15	20	25	19	26
8-16	10	20	9	13	23	40	25	26	19
4-7	20	20	55	32	54	20	50	46	39
1-3	30	20	18	23	8	20	0	8	16
Mean Years	14.2	13.2	9.1	12.2	8.0	12.0	9.2	9.3	10.88
MILES DRIVEN (THOUSANDS)									
25-99	40	30	9	26	31	40	13	26	26
17-24	30	20	18	23	38	0	50	34	28
11-16	20	20	27	23	8	20	25	15	19
1-10	10	30	45	29	23	40	12	23	26
Mean Miles	29.7	22.4	19.0	23.6	25.0	24.6	19.2	20.2	22.0
VEHICLE DRIVEN									
Auto	90	80	100	90	92	100	50	81	86
Truck	10	20	0	10	8	0	50	19	14
HOW TAUGHT									
Self	50	20	45	39	23	20	13	19	30
Family	40	60	36	45	46	60	50	50	47
Friend	0	10	9	6	15	20	12	15	11
Dr'g Sch'l	10	10	9	10	15	0	25	15	12
RECORDED ACCIDENTS									
3 plus	30	0	45	26	23	60	50	38	32
2	20	40	18	26	38	0	25	26	26
1	10	10	36	19	31	40	25	31	25
0	40	50	0	29	8	0	0	4	18
Mean Number	2.0	0.9	2.2	1.7	1.7	3.0	3.1	2.4	1.87
RECORDED CONVICTIONS									
5	10	50	18	26	15	40	50	31	28
4	40	10	27	26	31	20	0	19	23
3	50	40	18	35	54	40	38	46	40
0-2	0	0	36	13	0	0	12	4	9
Mean Number	3.8	4.5	3.6	4.0	3.7	4.6	4.6	4.5	4.2

VOCABULARY TEST

As stated earlier, this test was administered with the purpose of exploring an area not examined by the three criteria. There is a belief that intelligence, as measured by vocabulary attainment, has a significant bearing upon driving attitude and behavior. No statistics accompanied the measuring instruments which would suggest there might be a correlation between their scores and intelligence test scores.

Table XVIII is a comparison of mean scores and ranges of clinic groups with the ranges and mean scores of the Vocabulary Test's sample. Subjects who participated in the clinic appear to have scored higher in vocabulary development than those in the author's samples. It is shown by Kruskal-Wallis test of significance that no significant differences exist between groups on the pre-experiment test. The null hypothesis is therefore accepted.

TABLE XVIII
COMPARISON OF DRIVER VOCABULARY TEST SCORES
WITH TEST AUTHOR'S SAMPLE

GROUPS	N	RANGE	MEAN
TREATMENT GROUPS			
Pre-Experiment			
Guidance	9	10-20	18.3
Counselling	10	10-20	16.8
Teaching	11	12-20	17.0
Totals	30	10-20	17.4
Post-Experiment			
Guidance	8	15-20	18.5
Counselling	10	12-20	17.5
Teaching	10	14-20	18.1
Totals	28	12-20	18.0
CONTROL GROUPS			
Pre-Experiment			
Guidance	13	11-20	19.3
Counselling	5	13-18	15.4
Teaching	8	14-20	17.6
Totals	26	11-20	17.3
Post-Experiment			
Guidance	12	16-20	18.9
Counselling	5	15-20	17.2
Teaching	8	17-20	18.3
Totals	25	15-20	18.4
TEST AUTHOR'S SAMPLE			
8th Grade Pupils	26	12-19	16.2
6th Grade Pupils	31	9-19	14.2
4th Grade Pupils	29	3-11	7.4
ADULT VIOLATORS	107	1-20	14.7

$H = -3.95 \times^2$ required at .10 level = 9.24. Not significant. Accept null hypothesis.

In Table XIX are shown the results of the Wilcoxon test applied to the Vocabulary Test pre-experiment, post-experiment differences scores. For each group the differences are not significant and the null hypothesis is accepted.

The Driver Vocabulary Test, it may therefore be inferred, is not a useful instrument for measuring change in driving intelligence or vocabulary attainment and no conclusions can be drawn about attitude or behavior from its results.

TABLE XIX

COMPARISON OF WILCOXAN T SCORES ON THE DRIVER VOCABULARY
TEST PRE MINUS POST EXPERIMENT SCORES

GROUPS	N	OBTAINED T	REQ'D T .05 level	NULL HYPOTHESIS
TREATMENT				
Guidance	7	9	2	Accept
Counselling	8	10.5	4	Accept
Teaching	8	-14	4	Accept
CONTROL				
Guidance	7	4.5	2	Accept
Counselling	3	0	0	Accept
Teaching	6	5.5	0	Accept

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

The previous four chapters have been devoted to details of the research--Alberta Safety Council, literature related to group methods, research design, results and analysis--this chapter will concern itself with a more general treatment of the topic. The study will be summarized briefly; interpretations made earlier will be drawn together here, and the chapter will conclude with recommendations which result from the study.

In summary, the purpose of the experiment was to determine whether group methods have any effect on the attitudes and the driving behavior of drivers referred to the Traffic Court Clinic. Secondly, it was proposed that research would test the effectiveness of different methods of group work. The methods used were: guidance, counselling, teaching. Criteria used to measure the effectiveness were the Siebrecht Attitude Scale and the pre-post experiment conviction or demerit ratings of the participants. A third, intended, criterion--the Columbia Driver Judgment Test, was not used as intended and was eliminated as a criterion.

Groups were formed by random selection of people referred to the clinic by the Driver Board of Review. Data revealed that the average Traffic Court Clinic group has the following characteristics. It is composed of twenty-six-year-old males, single, with fewer than one dependent child. It is a lower-middle class group with some few members from other socio-economic classes. The average education level is grade 11 and the average number of years driving experience is 11 years. Members average about 22,000 miles of driving experience each, mostly in automobiles. They are self-taught, generally, and over the course of their experience

they have debited themselves with about two accidents and four convictions each. Each member has the unique distinction of being referred for self-improvement by the Driver Review Board of Alberta.

The foregoing description is an interpretation of the demographic and driving experience data secured during the study. Following are interpretations from criteria data analysis.

1. Group methods for changing attitudes of drivers in the Traffic Court Clinic are effective.
2. The most effective method is the counselling group method.
3. The Siebrecht Attitude Scale is a useful instrument for measuring attitude change in drivers.
4. The Columbia Driver Judgment Test has possibilities for being an effective criterion for measuring attitude.
5. The convictions criterion is not yet a useful criterion for measuring attitude change.
6. The Driver Vocabulary Test is not a useful instrument for measuring change of attitude or differentiating intelligence levels for drivers.

Although the statistics supported the thesis that changes in attitudes would be produced by group methods, whether those changes were entirely the result of the treatments applied needs additional study because there were uncontrolled variables which may have exerted an influence.

One is left with questions, especially concerning the voluntary attendance aspect of the clinic. What would have been the results of the experiment had all those persons referred taken part? If the young, inexperienced, potentially unsafe drivers who were absent had attended, would the groups and those drivers particularly have profitted or would they

have suffered? If the purpose of the government and the Safety Council is to reach the unsafe driver, perhaps some thought should be given to making the clinic compulsory for unsafe drivers.

Recommendations resulting from the study are:

1. Continue with group methods in treating delinquent drivers; the results do not warrant a decision to close the clinic.
2. Informal methods will be most effective with the type of group outlined above.
3. Further investigation should be made with the sub test derived from the Siebrecht Attitude Scale since it may prove to be a useful instrument. At the moment, the total instrument could be used to advantage.
4. Controlled experimentation with the Columbia Driver Judgment Test would help determine the usefulness of the test to counsellors who wish to be more objective in their observations.
5. A follow-up of the same drivers who participated in this experiment, to compare demerit ratings for a three-year post-experiment period, may prove more useful than the six-week pre-post period used here.
6. Further experimentation should be made with attempts to control certain demographic and driving experience variables such as: sex, marriage, number of dependents, years of driving, type of training, number of accidents.
7. The compulsory attendance factor should be further investigated and used as a controlled variable.

As a final comment, although the data affirms there is a significant positive attitude change using non-directive group methods, the conclusion applies only to a select group. The group studied was referred as its members came to the attention of traffic officials. Generally speaking, the group represents about 15 percent of the total driving population.

That is to say, inferences may be made to that 15 percent of the driving population who come under scrutiny by the Driver Board of Review in Alberta and who have poor driving behavior. No inferences are made to the entire population in Alberta, many members of which may have equally poor driving behavior and attitudes but who may, by fate or by providence, not yet have been caught.

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APPENDIX A

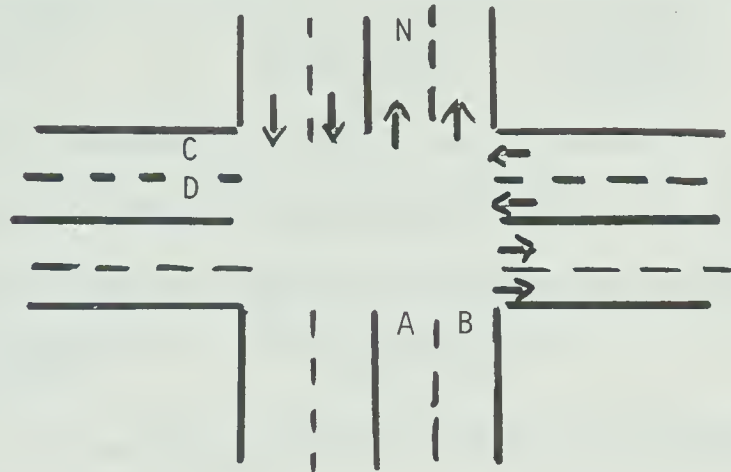
SAMPLE QUESTIONS FROM THE COLUMBIA DRIVER
JUDGMENT TEST FORM A

1. You are driving at about 30 miles per hour, late at night on a dark country road. Your headlights are on the high beam. You see a car approaching from the opposite direction. You should

- a. brake and slow down
- b. pull over to the right
- c. dim your lights
- d. blow your horn.

17. A northbound car is approaching the intersection. If the driver wants to make a left turn, he should be prepared to turn from lane

- a. A to C
- b. A to D
- c. B to C
- d. B to D

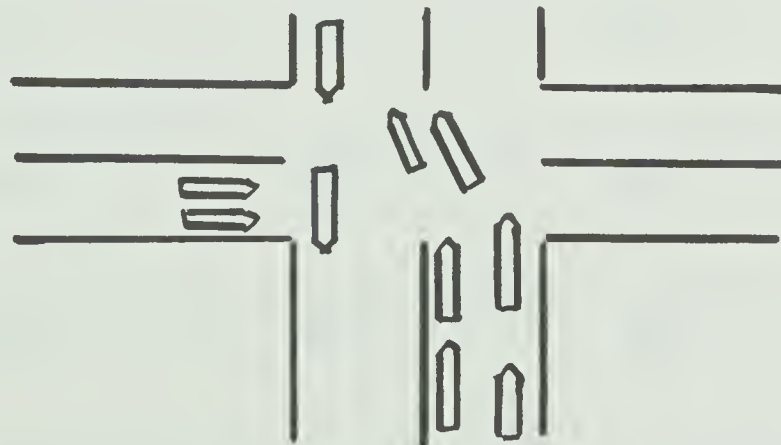


40. The Facts:

You are in a car slowly approaching an intersection. The light is green but the shaded cars are standing still. Cars B and C are trying to make left turns. You want to go straight ahead.

What should you do?

- a. Go straight ahead and stop behind car B; after car B makes its left turn continue forward.
- b. Stop before entering the intersection and let car C make its left turn to clear the "jam".
- c. Continue slowly forward, moving slightly to the right to get around car B.
- d. Move immediately to the right lane and continue forward.



COMMENT: 1. There are 13 items with diagrams like the ones above.
2. All questions are answered on answer sheets.
3. This is a forced-choice type test.
4. There are 40 questions with a suggested time limit of one hour.
5. Demographic and Driving Experience data was retrieved in part from the answer sheet.

COLUMBIA DRIVER JUDGMENT TEST-ANSWER SHEET 61

J. L. FINE, J. L. MALFETTI, E. J. SHOBEN, JR.

FORM:

A B

(circle one)

Not Write
his Space

Name _____ Date of Birth _____
Last First Middle Month / Day / Year

Sex: Male Female Occupation _____
(circle one)

Marital Status: Single Divorced
(circle one) Married Separated Number of Children _____

Highest Grade Completed in School: (circle one) 1 2 3 4 5 6 7 8 1 2 3 4 1 2 3 4 1 2 3 4
Grade School High School College Graduate School

How many years have you been driving? _____

How many miles did you drive during the past year? _____

How many accidents have you been involved in as a driver during the past three years?
Your fault Not your fault

How many tickets for moving violations have you received during the past three years? _____

1 ☐ A ☐ B ☐ C ☐ D	9 ☐ A ☐ B ☐ C ☐ D	17 ☐ A ☐ B ☐ C ☐ D	25 ☐ A ☐ B ☐ C ☐ D	33 ☐ A ☐ B ☐ C ☐ D
2 ☐ A ☐ B ☐ C ☐ D	10 ☐ A ☐ B ☐ C ☐ D	18 ☐ A ☐ B ☐ C ☐ D	26 ☐ A ☐ B ☐ C ☐ D	34 ☐ A ☐ B ☐ C ☐ D
3 ☐ A ☐ B ☐ C ☐ D	11 ☐ A ☐ B ☐ C ☐ D	19 ☐ A ☐ B ☐ C ☐ D	27 ☐ A ☐ B ☐ C ☐ D	35 ☐ A ☐ B ☐ C ☐ D
4 ☐ A ☐ B ☐ C ☐ D	12 ☐ A ☐ B ☐ C ☐ D	20 ☐ A ☐ B ☐ C ☐ D	28 ☐ A ☐ B ☐ C ☐ D	36 ☐ A ☐ B ☐ C ☐ D
5 ☐ A ☐ B ☐ C ☐ D	13 ☐ A ☐ B ☐ C ☐ D	21 ☐ A ☐ B ☐ C ☐ D	29 ☐ A ☐ B ☐ C ☐ D	37 ☐ A ☐ B ☐ C ☐ D
6 ☐ A ☐ B ☐ C ☐ D	14 ☐ A ☐ B ☐ C ☐ D	22 ☐ A ☐ B ☐ C ☐ D	30 ☐ A ☐ B ☐ C ☐ D	38 ☐ A ☐ B ☐ C ☐ D
7 ☐ A ☐ B ☐ C ☐ D	15 ☐ A ☐ B ☐ C ☐ D	23 ☐ A ☐ B ☐ C ☐ D	31 ☐ A ☐ B ☐ C ☐ D	39 ☐ A ☐ B ☐ C ☐ D
8 ☐ A ☐ B ☐ C ☐ D	16 ☐ A ☐ B ☐ C ☐ D	24 ☐ A ☐ B ☐ C ☐ D	32 ☐ A ☐ B ☐ C ☐ D	40 ☐ A ☐ B ☐ C ☐ D

APPENDIX B

SAMPLE QUESTIONS FROM SIEBRECHT ATTITUDE SCALE
(USED FOR THE SUB TEST)

5. Drivers who have the right of way need not be concerned about sharing the road.
☒ Strongly Disagree⁵ ☐ Disagree⁴ ☐ Undecided³ ☐ Agree²
☐ Strongly Agree¹
10. Pedestrians should at all times be solely responsible for their own safety.
☐ Strongly Disagree ☒ Disagree ☐ Undecided ☐ Agree
☐ Strongly Agree
14. Because "things just happen" one should not be concerned with the prevention of accidents.
☒ Strongly Disagree ☐ Disagree ☐ Undecided ☐ Agree
☐ Strongly Agree
20. The rudeness of traffic officers discourages courtesy on the part of the motorist.
☐ Strongly Agree ☒ Agree ☐ Undecided ☐ Disagree
☐ Strongly Disagree
27. To accommodate the traffic, the cooperation of all drivers is necessary.
☒ Strongly Agree ☐ Agree ☐ Undecided ☐ Disagree
☐ Strongly Disagree
28. The occurrence of accidents is a matter of chance and should be regarded as unavoidable.
☒ Strongly Disagree ☐ Disagree ☐ Undecided ☐ Agree
☐ Strongly Agree
32. People are as courteous "behind the wheel" as they are at any other time.
☐ Strongly Disagree ☒ Disagree ☐ Undecided ☐ Agree
☐ Strongly Agree

36. Pedestrians should yield the right of way to motorists.

☐ Strongly Disagree ☒ Disagree ☐ Undecided ☐ Agree

☐ Strongly Agree

37. Drivers of automobiles should be more concerned with the welfare of their passengers than of themselves.

☐ Strongly Agree ☒ Agree ☐ Undecided ☐ Disagree

☐ Strongly Disagree

39. Driving is a cooperative affair in which the motorists share alike on the highways.

☒ Strongly Agree ☐ Agree ☐ Undecided ☐ Disagree

☐ Strongly Disagree

- COMMENTS:
1. This is a forced-choice type test.
 2. Answers are marked on the paper itself.
 3. There are 40 questions with a suggested time of 10 minutes.
 4. Page 65 is the front page of the scale which contains:
 - a. questions of a demographic nature
 - b. directions

SIEBRECHT ATTITUDE SCALE

BY ELMER B. SIEBRECHT, Ed.D.

NEW YORK UNIVERSITY

SCHOOL OF CONTINUING EDUCATION AND EXTENSION SERVICES

THE CENTER FOR SAFETY

PRELIMINARY EDUCATION

1. Name City State
Date
2. Age Sex Extent of education: Freshman
Sophomore Junior Senior Other
3. Place of residence: City Small town
Country (farm) Other
4. Driving experience: (a) Number of years you have driven a motor vehicle.....
(b) Approximate number of miles driven (1) last year
(2) last five years (c) Number of accidents you have had
(1) while driving (2) as a pedestrian
5. Kind of vehicle you drive most often: (a) Automobile..... (b) Truck
(c) Bus (d) Other
6. Method by which you learned to drive: (a) From member of the family.....
(b) From a friend (c) By yourself..... (d) Course in high
school (e) Other
7. Your occupation Also your father's occupation if you
are a student

DIRECTIONS: Below is a series of statements about problems related to the driving of motor vehicles. There are no correct answers for these statements. They have therefore been set up in such a manner as to permit persons to indicate the extent to which they agree or disagree with the ideas expressed. Suppose the statement is "Only persons who have reached their nineteenth birthday should be permitted to drive a motor vehicle."

..... Strongly agree¹ x Agree² Undecided³ Disagree² Strongly disagree¹

As you read the statement you will know whether you agree or disagree with the idea expressed. You must then indicate the extent to which you agree or disagree. If you agree fully, place an x before the words "Strongly agree"; if you agree but with reservation, that is you do not fully agree, place the x before the word "Agree," as in the sample above. If you disagree with the idea, indicate the extent to which you disagree by checking either "Disagree" or "Strongly disagree." But if you neither agree nor disagree, that is you are not certain, place the x before "Undecided." To indicate your attitude, read the statement carefully, then quickly check the position which best indicates your attitude. Do not spend much time with any statement. *But be sure to answer every statement.* You should complete the work in no more than *ten minutes*. Most persons will finish in less time. Work fast but carefully.

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APPENDIX C

DRIVER VOCABULARY TEST (Form T-3)

DIRECTIONS: In each group of words below, select the word or phrase that is MOST NEARLY THE SAME in meaning as the word printed in large letters at the head of that group, and put its NUMBER in the parenthesis at the right of the group.

For Example:
YIELD

1. weather
2. give way
3. short
4. pasture
5. call out ..(2)

1. SPACE

1. school
2. noon
3. captain
4. room
5. board ... ()

6. TRACTION

1. race
2. grip
3. tachometer
4. one third
5. pinion ... ()

11. FRICTION

1. blister
2. novel
3. rubbing
4. flexible
5. tire ... ()

2. SPEED

1. cop
2. highway
3. brakes
4. ticket
5. go fast .. ()

7. CARGO

1. load
2. small boat
3. hem
4. draught
5. vehicle ... ()

12. PERMIT

3. ENGINE

1. car
2. gasoline
3. machine
4. have fun
5. engage ... ()

8. SLIPPERY

1. knot
2. steering
3. hydraulic
4. shoe
5. smooth ... ()

4. SAFETY

1. belt
2. food
3. to hurt
4. security
5. first ... ()

9. EXHAUST

1. example
2. busy
3. carburetor
4. drain
5. manifest ... ()

5. CLUTCH

1. exploit
2. nest
3. flit
4. grasp
5. cane ... ()

10. ACCUSTOM

1. disappoint
2. customary
3. encounter
4. get used to
5. business ... ()

Teachers College • Columbia University, New York, N. Y. 10027

SAFETY RESEARCH AND EDUCATION PROJECT
870-4264

October 14, 1966

Mr. W. S. Sharpe, B.Ed.
Chief Instructor, Traffic Court Clinic
The Alberta Safety Council
10526 Jasper Avenue
Edmonton, Alberta, CANADA

Dear Mr. Sharpe:

Dr. James Malfetti asked me to respond to your letter of October 3, 1966. We would be very pleased to have your cooperation in the development of further data on the Columbia Driver Judgment Test. The suggestions you make regarding correlations of personal data such as age, sex, driver experience, etc., would be very useful. More crucial would be evidence on accident and violation records.

The two different forms might be used in either of two ways: (a) Form A administered before the clinic experience (or other experimental treatment), and Form B after. This would give evidence on the effect of the experience intervening between the pre- and post-test administrations. (b) The two forms might be given simultaneously, alternating between subjects so as to obtain random assignment. This would allow comparisons between results on Form A and Form B.

One of the questions relating to interpretation of these test results, and to driver proficiency itself, is the question of influences of intelligence. If you could secure evidence on this, it would be helpful to us. A suggested I.Q. measure (Driver Vocabulary Test) is enclosed herewith.

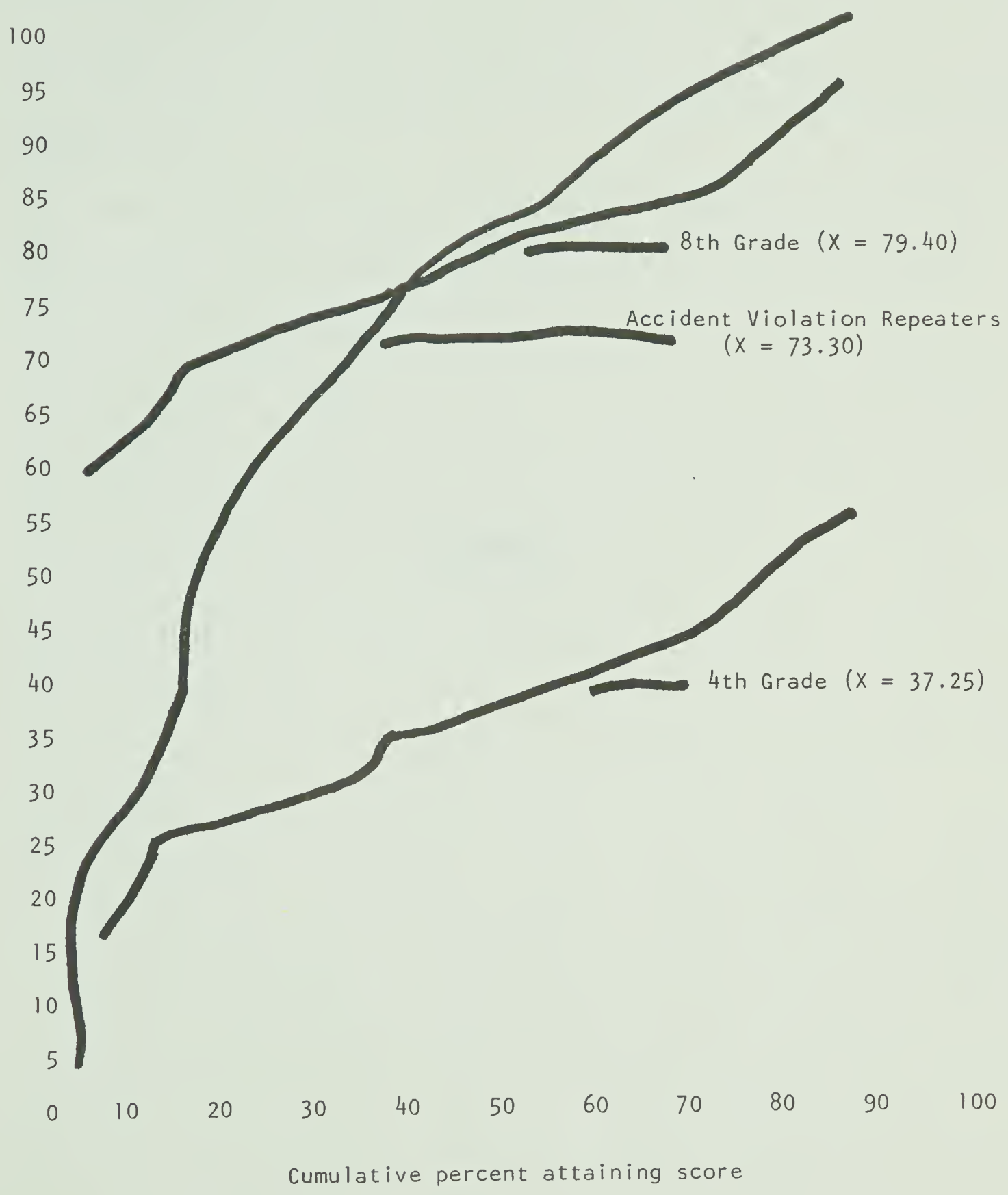
Order forms for the Columbia Driver Judgment Test are enclosed. If your budget won't cover these, we would be happy to furnish test forms in return for your data. You may reproduce the I.Q. test or we can send you copies of it also.

We are pleased and encouraged by your offer of cooperation, and we look forward to your reaction to these suggestions.

Cordially yours,

GRAPH 2

DRIVER VOCABULARY TEST SCORES



APPENDIX D

CLERICAL AND ADMINISTRATIVE PROCEDURES

Detailed below are the steps followed in the project.

1. Referral to register for the clinic by letter and/or in person from the Driver Review Board. Letters usually advised that the subject could expect to take part in a research project.
2. Thirty, rather than the usual 20 were registered for each group as they appeared.
3. On the first night, the following statement was read to the group by the examiner. "You have all been referred to the Traffic Court Clinic in the usual manner. I am conducting an evaluation of the clinic and of three tests used by the clinic. To evaluate the clinic accurately, I need a control group and an experimental group. All people here will have the opportunity to take part in the usual program for which you were referred. However, at this time, only half of this group of 30 can be accommodated. The other half will be able to attend the regular course in about four months' time. This is what I'm hoping to get your cooperation on at the present time: a. all people here will write the tests and questionnaire; b. we will draw names for half the group. They will remain to take the course now; c. the other half will be free to leave after writing the tests; d. everyone will return to rewrite the tests in June; e. those who do not take the course now will be given the chance to take it after the June testing. In all instances it will immediately be reported to the Driver Review Board and recorded by them that you took part in this evaluation and what part you took. In no way will it affect your license negatively. Is there anyone who must, for his own reasons, take the course now rather than later in the year? (pause) Then we will begin the testing."

4. Tests were administered according to manual instructions.

(Directions were read aloud by the examiner)

5. Following test administration, names were drawn from the hat as stated and members dispersed to their respective groups.

6. The examiner was not in contact with the groups again until after the six-week post experiment period. Subjects were reminded by letter of their retesting date. Another letter was sent to those who could not appear in person for retesting. There was a better than 50 per-cent response to the final letter and phone contact. (See letters which follow this summary).

7. Each leader had a "course" outline. The method of approach for each was discussed. Tape recordings were made at various intervals to enable verification by judges that the method used was the method planned and described. Each counsellor kept a log, a summary of which follows.

8. The cooperation of the Edmonton City Police Department made it possible to have the same sargeant available for each group.

TRAFFIC COURT CLINIC EVALUATION

Note to participant counsellors in the evaluation experiment. Feb. 9/69

A. We assume that:

1. the drivers come to the clinic with a positive attitude toward life--they value the things, ideas and people that society in general values.

2. they have not learned how to use their positive attitude in a driving situation.

B. The objective of the course is to teach drivers how to use a positive attitude in driving.

C. The method. Each counsellor-instructor will use the particular method of approach assigned. The definition for each method may be found in Kemp's "Perspectives on the Group Process", page 42. These definitions are in terms of content and process as follows:

1. Teaching. Content: Academic subject matter and techniques of the driving task. Process: content planned and presented by teacher by lecture and recitation, facts and skills emphasized, films, discussion. This method is fairly well laid out in the Safety Council course outline. The content in outline form appears below.

a. Session I

- i. Introductions, names, jobs, etc.
- ii. Purpose and ground rules.
- iii. The traffic problem.
- iv. How the problem developed.
- v. Factors which cause accidents.
- vi. How to reduce accidents--engineering, drivers, etc.

b. Session II

- i. Review previous session.
- ii. Physical aspects of drivers which cause accidents.
- iii. Mental factors. Discuss various theories:
 - Poor learning
 - Poor communications between drivers
 - Driving behavior modelled after VIPs

b. Session II continued

iii. continued

Anxiety and change of personality

Personality of the driver

iv. Solutions:

Defensive Driving

Margin of error

Anticipation

Compare "good" "bad" drivers

v. Analyze six situations for defensive driving.

vi. Summary and review

c. Session III. (Police Sergeant)

i. Review session I and II.

ii. Purpose of the law.

iii. Objectives of the police force.

iv. Agencies of law enforcement.

v. Signs and signals.

vi. Specific situations and questions.

vii. Summary and review. (Remind group about cards to be stamped)

d. Session IV

i. Review of previous sessions.

ii. Examine natural laws which influence driving.

Momentum

Kinetic Energy

Force of Impact

Friction

Stopping distances

Speed--time saved, etc., reaction time, braking distances

Alcohol and its effects

Danger zones

iii. Evaluation

2. Group Guidance: Content: topics related to driving, work, education and how to do.... police, law and information about same. Content depends on the process: co-operative planning of discussion topics and areas of interest and relevancy; discussion of the topics; focus on attitudes and opinions; use of debate, films. This process implies that the counselor acts as a chairman for the group, keeping the group on topics and giving as much time as possible for complete exploration by all members. He may teach facts when necessary. Topics which may be of use:

Right to drive versus privilege

Theories about causes of accidents and convictions

The law and law enforcement

Solutions to individual driving difficulties

Education and driving
 Values and attitudes
 Some of those listed in the preceeding outline

3. Group Counselling: Content: non-academic or subject matter oriented as such; focus on feelings, reactions, behavior, interpersonal relations, frustrations, the driver. Driving facts and data are used only as a take-off for discussion. The topics listed for the other two methods may or may not be covered through counselling. Process: After the initial introduction, the group is encouraged to raise topics which concern them. The counsellor focuses attention on feelings. There may be role playing or free discussion. Films are shown when needed--if at all. Counsellor "plays it by ear".

D. Films. Although it is NOT necessary to follow the list below in rigid sequence, please do not use more than the films suggested.

- | | |
|-----------|--|
| Session I | Jykle and Hyde
Jerks that Irk |
| II | To See Ourselves
Warm to the Touch |
| III | Hiball Highway
Safety Through Seatbelts |
| IV | Office Halibrand |

E. Attached Counsellor's log
 Your evaluation of the group

THE ALBERTA SAFETY COUNCIL
10526 Jasper Avenue, Edmonton 14

SAMPLE LETTER TO SUBJECTS NO.1

Dear Sir:

Concerning the Traffic Court Clinic Experiment

You will recall having come to the Alberta Safety Council offices in February, and my saying you would be contacted again. This is it!

If you'll bear with me awhile, it will be finished in no time. They say, 'the proof of the puddin' is in the eatin'. Well the proof of the Clinic is in the testin'. I hope you will be able to spend another evening with me. Below is the information you will need.

Time: 7:30 p.m.
Place: 10526 Jasper Avenue,
Fourth Floor
Date:

Looking forward to seeing you.

Sincerely,

W. S. Sharpe

P.S.: This last testing will complete the experiment. Thank you in advance for your co-operation and help.

W.S.S.

THE ALBERTA SAFETY COUNCIL
10526 Jasper Avenue, Edmonton 14

SAMPLE LETTER TO SUBJECTS NO.2

Dear

Please complete the enclosed evaluation and return it to me
in the self-addressed envelope.

I may be in contact with you once more before June 30, 1969,
when the experiment will be completed.

Thank you,

Steve Sharpe

SS/bb
Enc.2

THE ALBERTA SAFETY COUNCIL
10526 Jasper Avenue, Edmonton 14

SPECIMEN LETTER NO.3 RE: FOLLOW UP TO SUBJECTS
WHO DID NOT APPEAR FOR RETESTING

13423 - 116 Street
Edmonton, Alberta

13 July, 1969

To: Those persons who were referred
to the Traffic Court Clinic and
who took part in the first half
of the clinic experiment.

Dear Sir:

In an effort to complete the experiment, it is necessary to
communicate with each person who did not return to the Safety Council
offices for retesting.

Calling each person by telephone was attempted but for one reason
or another: busy--no answer--moved--etc., you could not be contacted--
thus this letter.

Would you please complete the enclosed tests as the directions
on each specify. I've crossed off some unnecessary work. Return them
in the self-addressed-stamped envelope.

A few pointers: (1) don't get help from a spouse or other friend
(this would "slant" the data). (2) Do it now. In most cases it's only
an hour or less. If it's put off, it may never get done. (3) Please re-
turn everything--it's costing me money.

Thank you very much for your help.

Sincerely,

(Signed) Steve Sharpe

TIMETABLE OF ACTIVITIES

WEEK	TEST	ACTIVITIES					Legend: Pilot = P Guidance = G Counselling = C Teaching = T	
		SESSIONS				Post Evaluation		Post Testing
		1	2	3	4			
1	P	P						
2	G	G	P					
3	C	C	G	P				
4	T	T	C	G	P	P		
5			T	C	G	G		
6				T	C	C		
7					T	T		
8-16	Waiting Period							
17	Mail Letters							
18						P & G		
19						C & T		

APPENDIX E

SUMMARY OF COUNSELLORS' LOGS

SESSION 1

ASPECTS CONSIDERED	GUIDANCE GROUP	COUNSELLING GROUP	TEACHING GROUP
A. Topics Covered	the driver, his attitude car inspection and mechanics of the car	reasons for offenses changes in law Driver Review Board Various bad driving habits, especially highway & speeding value of seat belts	purpose traffic problem Development of problem factors causing accidents B-E's
B. Films Shown	none	Officer Halibrand Safety Through Seatbelts	Jykle and Hyde Jerks That Irk
C. Absent	one	one	one
D. Taping Times	approx. 8:30 - 8:45	8:00 - 8:10 9:05 - 9:20	8:10 - 8:20
E. Comments	presence of "Hawthorne Effect"--knew they were being tested and doing best to appear well. discussion lively from beginning.	anxious to get going little need for interpretation on my part except to bring them back to useful discussion after spen- ding some time on law. a good, lively group.	didn't cover topics adequately because of initial testing time

SESSION 2

A. Topics Covered	good driving habits seat belts statistics	differences between younger and older drivers shoulder straps car safety, traffic regulations value of course, where does it lead and is it doing what it is supposed to? projecting blame responsibility for own driving self-control, defensive driving awareness during driving pre-occupations	review of session I driver--physical mental/emotional alcohol, drugs solutions defensive driving, techniques summary & preview Session III
-------------------	---	---	--

SUMMARY OF COUNSELLORS' LOGS (Continued)

ASPECTS CONSIDERED	GUIDANCE GROUP	COUNSELLING GROUP	TEACHING GROUP
B. Films Shown	Warm to the Touch To See Ourselves Safety Thru Seatbelts	Jerks That Irk	Hiball Highway Warm to the Touch
C. Absentees	3	1	2
D. Taping Times	8:50 - 9:10	7:45 - 7:55 8:30 - 8:40	7:35 - 7:45
E. Comments	discussion had to be "coaxed" a little, thus the films, to promote discussion	several interruptions needed to maintain order everyone wanted to talk at once the most lively good insights expressed	no comment
SESSION 3 - With Sergeant			
A. Topics Covered	radar system regulations lights, circles what to do questions	radar, circles, city driving habits make-up of traffic division treatment of public police reports defensive driving ideas	as in course outline
B. Films Shown	none	none	To See Ourselves
C. Absent	2	0	6
D. Taping Times	8:45 - 9:05	7:30-7:40; 8:10-8:20; 9:-9:05	7:30 - 8:00 +
E. Comments	group had more questions than could be answered	questions & discussion continued all night. No time for films. Sgt. most cooperative and comments beneficial	conducted by a substitute according to plan group was prepared for both Sgt. and substitute counsel- lor Counsellor found Teaching "deadly"

SUMMARY OF COUNSELLORS' LOGS (Continued)

ASPECTS CONSIDERED	GUIDANCE GROUP	SESSION 4	COUNSELLING GROUP	TEACHING GROUP
A. Topics Covered	Sgt. and Police in general (negative) Engineering causes of accidents traffic regulations--changes speeding drunk driving		value of course change of habits and their life expectancy the "no one drives as well as we do" attitude	review of sessions 1-3 with emphasises on 3 personal problems effect of sessions in past 3 weeks, to find solutions natural laws safety features course summary--evaluation
B. Films Shown	Officer Halibrand		Warm to the Touch To See Ourselves	Safety Thru Seatbelts
C. Absent	3		2	4
D. Taping Times	7:45 - 8:25		Machine did not record	7:35 - 8:45
E. Comments	discussion very lively seemed to be "butting-in" when films shown		each reacted to one another for considerable time re information received and comments made	many could not answer Item #4 on questionnaire be- cause many question-answer situations could be de- fined as discussion

The writer is satisfied that the above logs, together with the judgments based on the tapes meet the requirements laid out for methods to be used. (Appendix D) This decision is further confirmed by the participants' observation which appear in Appendix F (Participants' Evaluation).

APPENDIX F

Driver Self Ratings are very interesting to compare. Here again the Counselling Group is most outstanding in the ratings being low compared with the other two groups. Notice how this group, after the clinic, thinks of itself as being worse than before the clinic, while the teaching group perceives no change and the guidance group's perception is one of improvement.

Most interesting is the rating produced for an outside observer compared with the rating which might be seen by their counsellor. In the latter case, all scores are extremely low. Note, too, that the counselling group is lowest, the guidance group higher, and the teaching group highest--just the opposite to what would be predicted from the Siebrecht criterion. For example, the teaching group perceived itself as "good" while the criterion predicts "poor" attitude.

Participant Evaluation follows the same pattern noted above--many responses predictable by past experience.

Counsellor Evaluation on Contribution correspond with the Siebrecht results but only slightly on Receptivity. The overall scores are similar to those on the receptivity scale. No inferences are made from this data; a reminder of the addage that one receives in proportion to his contribution.

COMPARISON OF DRIVER SELF RATINGS
ON DIFFERENT MEASURES

EVALUATOR	GROUPS								
	TREATMENT				CONTROL				TOTAL
	Guid.	Couns.	Teach.	Total	Guid.	Couns.	Teach.	Total	
	Percent				Percent				
Siebrecht Pre-x(Self)									
80 - 100	50.0	30.0	35.0	39.0	31.0	-	-	15.0	28.0
70 - 75	10.0	20.0	35.0	23.0	15.0	60.0	50.0	35.0	28.0
55 - 65	30.0	30.0	9.0	23.0	23.0	-	38.0	23.0	23.0
0 - 50	10.0	20.0	18.0	16.0	31.0	40.0	13.0	26.0	21.0
Number	10	10	11	31	13	5	8	26	57
Mean	72.0	63.0	71.0	68.5	64.0	62.0	65.0	64.0	67.0
Siebrecht Post-x(Self)									
90 - 100	44.0	-	18.0	21.0	20.0	-	-	10.0	16.0
75 - 85	22.0	33.0	36.0	31.0	10.0	25.0	38.0	23.0	27.0
65 - 70	11.0	11.0	9.0	10.0	-	25.0	38.0	20.0	14.0
10 - 60	22.0	56.0	36.0	38.0	70.0	50.0	25.0	50.0	43.0
Number	9	9	11	29	10	4	8	22	51
Mean	79.0	59.0	71.0	70.0	66.0	65.0	71.0	67.0	69.0
Questionnaire (Post-x)									
75 - 100	33.0	10.0	44.0	28.0					
60 - 70	-	20.0	-	7.0					
55	-	-	-	-					
20 - 50	67.0	70.0	56.0	65.0					
Number	9	10	9	28					
Mean	58.0	51.0	61.0	57.1					

CLIENT EVALUATION OF COURSE COMPARED WITH
COUNSELLOR EVALUATION OF CLIENT

DRIVER EVALUATION GROUPS					COUNSELLOR EVALUATION GROUPS				
Variable	Guid.	Couns.	Teach.	Total	Variable	Guid.	Couns.	Teach.	Total
Benefited	- All members -yes-				Contribution x (%)				
					4-5	20	50	22	31
Length					B	30	-	33	21
Longer	44	30	44	39	2	50	30	44	47
Same	56	70	44	57	1	-	20	-	7
Shorter	-	-	11	4	N	10	10	9	29
Total	9	10	9	28	$\bar{X}$	3	3	3	3
Satisfaction					Receptivity x				
Yes	100	100	89	96	5	20	20	-	14
No	-	-	11	4	4	20	50	34	34
Total	9	10	9	28	3	30	30	56	38
					1-2	30	-	11	14
					N	10	10	9	29
					$\bar{X}$	3	3	3	3
Improved Habits					Total xx				
Yes	78	40	44	54	8-9	30	40	22	31
No	22	60	56	46	7	20	10	11	14
Total	9	10	9	28	5-6	20	40	56	38
					3-4	30	10	11	17
					N	10	10	9	29
					$\bar{X}$	6	7	6	6
Attendance					x - Scored out of 5				
1	-	-			xx - Summed scored of Contribution and Receptivity out of 10				
2	-	-							
3	-	-	33	11					
4	100	100	67	89					
Total	9	10	9	28					
Method Used									
Teach	11	-	56	21					
Guid.	44	20	33	32					
Counsel	44	80	11	46					
Total	9	10	9	28					

EVALUATION OF TRAFFIC CLINIC BY PARTICIPANTS

NAME _____

DATE _____

1. Did you benefit from the program? (circle one) Yes No

EXPLAIN

2. Circle the answer if you think the course should be Longer
Same
Shorter

3. Were you satisfied with the way the course was handled? Yes No

EXPLAIN

4. The instructor was asked to conduct the course in a special way. Put a circle around the letter which best describes the way your group was handled.

- a. teaching of facts; lectures, questions and answers.
- b. group discussion; instructor as chairman; problem solving.
- c. focus on feelings; no special topics; free-flowing discussion.

5. Could the course have been improved? Yes No

EXPLAIN

6. How would you rate yourself as a driver now? Put an X on the line.

.....
POOR AVERAGE TOPNOTCH

APPENDIX G

DEMERIT POINT SYSTEM

Points	Violation	Points	Violation
7	Fail to Remain at Accident (H.T.A.)	3	Fail to Yield Right-of-Way
6	Careless Driving	3	Fail to Obey Stop Sign, Signal Light or RR Crossing Signal
6	Racing	3	Fail to Report an Accident
6	Speed - 30 MPH Over Limit	2	Fail to Lower Headlamp Beams
5	Fail to Stop Bus at RR Crossing	2	Making Turns Where Prohibited
4	Speed - 20 to 29 MPH Over Limit	2	Towing Persons on Toboggans, Bicycles, Skis, Etc.
4	Fail to stop for School Bus	2	Fail to Obey Signs
4	Follow Too Closely	2	Pedestrian Crossover Violation
3	Speed - 11 to 19 MPH Over Limit	2	Fail to Share Road
3	Drive Beyond RR Barrier	2	Improper Right & Left Turns
3	Fail to Obey Signal of Police	2	Fail to Give Signals
3	Crowd Driver's Seat	2	Unnecessary Slow Driving
3	Improper Passing	2	Improper Opening Vehicle Door
3	Wrong Way 1-Way Street		
3	Wrong Way on Divided Highway		

ACTION LEVELS: 6 Points - DRIVER WARNED
 9 Points - DRIVER INTERVIEWED
 15 Points - LICENCE SUSPENDED

POINTS ARE RETAINED FOR 2 YEARS FROM CONVICTION DATE

DRIVE CAREFULLY -- AVOID DEMERIT POINTS

APPENDIX H

SCORES FOR THE TWO FEMALES COMPARED
WITH THEIR RESPECTIVE GROUPS

MEASUREMENTS	Counselling Treatment Group X	Scores of Female ^a	Guidance Control Group X	Scores of Female ^b
1. Siebrecht Attitude Scale				
Pre-experiment	153.3	166	161.7	163
Post-experiment	160.9	167	160.2	165
Sub-Test				
Pre-experiment	38.2	39	41.6	36
Post-experiment	38.9	39	39.5	37
2. Convictions (Demerit Rating)				
Pre-experiment	5.3	7	3.3	6
Post-experiment	0.0	0	0.6	3
3. Vocabulary Test				
Pre-experiment	16.8	19	19.3	16
Post-experiment	17.5	20	18.9	20
4. Columbia	34.4	36	34.0	33

^a No effect on item: 1,3
Possible effect on item: 2,4

^b No effect or negative effect on: 1,3,4
Possible effect on item 2

This data does not warrant any inferences whatsoever.

B29977